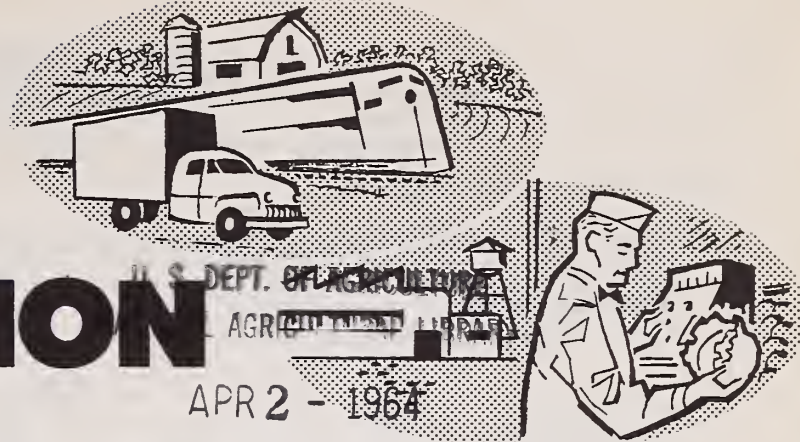


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MARKETING and TRANSPORTATION SITUATION



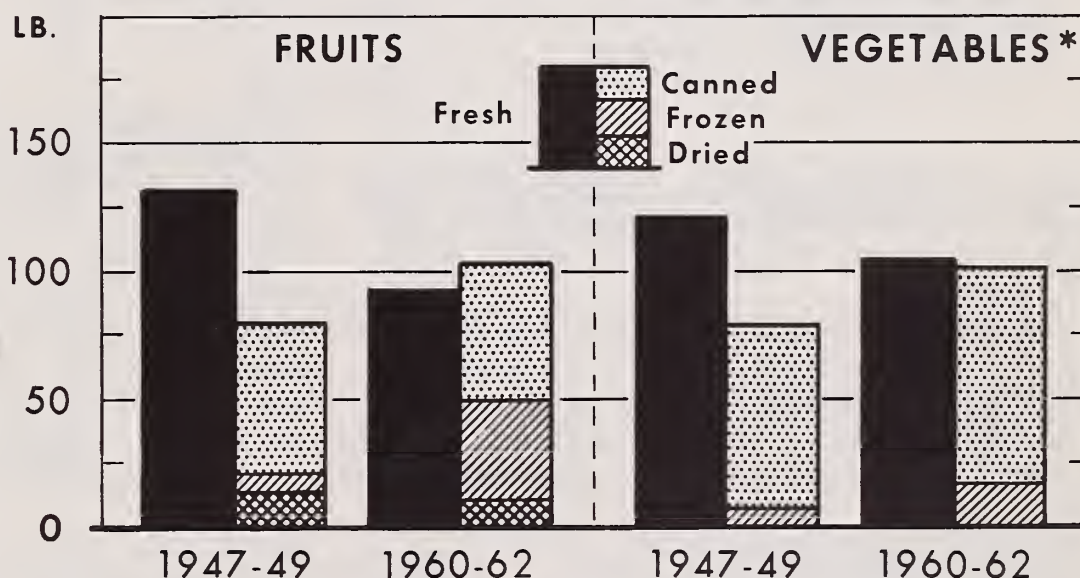
MTS-151

For Release November 18, P.M.

NOVEMBER 1963

Marketings of processed fruits and vegetables increased substantially in the postwar years, but marketings of the fresh products expanded so little that per capita consumption declined. Oranges accounted for much of the shift in per capita consumption of fruit. The quantity used fresh declined drastically. The decrease in the consumption of canned fruits and fruit juices was mostly in canned orange juice. Most of the increase in the per capita use of frozen fruits consisted of frozen orange juice concentrate. Canned tomatoes accounted for most of the increase in the consumption of canned vegetables. Frozen vegetable consumption per person increased, but frozen products still account for a minor part of the per capita consumption of vegetables. Retail prices of fresh fruits and vegetables increased more than prices of the processed products.

ANNUAL PER CAPITA CONSUMPTION OF FRUITS AND VEGETABLES



* DOES NOT INCLUDE MELONS, POTATOES, AND SWEETPOTATOES.

U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 2506-63 (10) ECONOMIC RESEARCH SERVICE

1964 OUTLOOK ISSUE

- Marketing Fruits and Vegetables
- Rail Traffic in Farm Products
- Developments in Transportation

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STATISTICAL SUMMARY OF MARKET INFORMATION

Item	Unit or base period	1962		1963		
		Year	: July-Sept.	: Jan.-Mar.	: Apr.-June	: July-Sept.
<u>Farm-to-retail price spreads</u>						
:						
Farm-food market basket: 1/	:	:	:	:	:	:
Retail cost	Dol.	1,067	1,073	1,080	1,071	1,087
Farm value	Dol.	410	412	400	389	397
Farm-retail spread	Dol.	657	661	680	682	690
Farmer's share of retail cost	Pct.	38	38	37	36	37
:						
Cotton:2/	:	:	:	:	:	:
Retail cost	Dol.	2.15	2.15	2.17	2.17	---
Farm value	Dol.	.33	.33	.33	.33	---
Farm-retail spread	Dol.	1.82	1.82	1.84	1.84	---
Farmer's share of retail cost	Pct.	15	15	15	15	---
:						
Cigarettes: 3/	:	:	:	:	:	:
Retail cost	Ct.	27.8	---	---	---	---
Farm value	Ct.	3.86	---	---	---	---
Federal and State excise taxes	Ct.	12.5	---	---	---	---
Farm-retail spread excluding excise taxes	Ct.	11.4	---	---	---	---
Farmer's share of retail cost	Pct.	14	---	---	---	---
:						
<u>General economic indicators</u>						
:						
Consumers' per capita income and expenditures: 4/	:	:	:	:	:	:
Disposable personal income	Dol.	2,060	2,067	2,094	2,117	2,132
Expenditures for goods and services	Dol.	1,905	1,908	1,951	1,960	1,974
Expenditures for food	Dol.	394	397	398	399	---
Expenditures for food as percentage of disposable income	Pct.	19.1	19.2	19.0	18.8	---
:						
		1962		1963		
		Year	: Sept.	: July	: August	: Sept.
5/						
Hourly earnings, production workers, manufacturing:	Dol.	2.39	2.39	2.45	2.43	2.46
Hourly earnings of food marketing employees 6/....	Dol.	2.10	2.10	2.16	2.15	---
:						
Retail sales: 7/	:	:	:	:	:	:
Food stores	Mil. dol.	4,801	4,877	5,030	4,996	4,931
Apparel stores	Mil. dol.	1,193	1,202	1,214	1,259	1,190
:						
Manufacturers' inventories:7/	:	:	:	:	:	:
Food and beverage	Bil. dol.	5.40	5.37	5.46	5.46	5.46
Textile	Bil. dol.	2.87	2.85	2.88	2.91	2.90
Tobacco	Bil. dol.	2.14	2.14	2.17	2.15	2.11
:						
Indexes of industrial production: 8/	:	:	:	:	:	:
Food and beverage manufactures	1957-59=100	114	114	117	117	---
Textile mill products	1957-59=100	115	116	117	119	---
Apparel products	1957-59=100	119	121	126	127	---
Tobacco products	1957-59=100	112	116	118	---	---
:						
Index of physical volume of farm marketings	1947-49=100	136	150	130	138	157
:						
<u>Price indexes</u>						
:						
Consumer price index 5/.....	1957-59=100	105.4	106.1	107.1	107.1	107.1
Wholesale prices of food 5/.....	1957-59=100	100.6	102.9	101.3	100.1	100.1
Wholesale prices of cotton products 5/.....	1957-59=100	101.7	101.3	99.8	99.7	99.8
Wholesale prices of woolen products 5/.....	1957-59=100	99.1	99.4	100.5	100.6	100.6
Prices received by farmers 9/.....	1957-59=100	100	103	101	100	100
Prices paid by farmers, interest, taxes, and wage rates 9/.....	1957-59=100	105	105	107	106	106

1/ Average quantities of farm food products purchased per wage-earner or clerical-worker family in 1952. Estimates of the farmer's share do not allow for Government payments to producers. 2/ Data for average family purchases in 1950 of 25 articles of cotton clothing and housefurnishings divided by number of pounds of lint cotton required for their manufacture; see U. S. Dept. Agr. Mktg. Res. Rpt. 277. 3/ Data for package of regular-sized popular brand cigarettes; farm value is return to farmer for 0.065 lb. of leaf tobacco of cigarette-types; data for year ended June 30, 1963. 4/ Seasonally adjusted annual rates, calculated from Dept. of Commerce revised data. Third quarter 1963 data are from preliminary estimates by the Council of Economic Advisers. 5/ Dept. Labor. 6/ Weighted composite earnings in food processing, wholesale trade, retail food stores, calculated from data of Dept. Labor. 7/ Seasonally adjusted, Dept. Commerce. Sales data for 1962 are averages of monthly totals (unadjusted). Inventory data for 1962 are book values at end of year (adjusted). 8/ Seasonally adjusted, Board of Governors of Federal Reserve System. 9/ Converted from 1910-14 base.

 THE MARKETING AND TRANSPORTATION SITUATION

Approved by the Outlook and Situation Board November 7, 1963

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SUMMARY

Unit charges for marketing farm-originated food products probably will go up again next year. However, the increase is expected to be smaller than in 1963. Marketing charges averaged 4 percent higher in the first 9 months of 1963 than in the same period last year and double the average annual increase during the last 10 years.

Operating costs for food marketing firms likely will average a little higher next year than in 1963. Unit labor costs probably will continue rising. Strength in raw material prices may bring price increases in some supplies and other goods bought by marketing firms, but increases are not expected to be large. Unit transportation costs, except ocean freight rates, are not expected to rise and some decrease might occur. Depreciation charges, State and local taxes, and some other costs probably will continue climbing.

Prices farmers receive for most major groups of food products in 1964 are not expected to change much from levels this year except for wheat which will be lower

than in 1963. Retail prices of farm food products are expected to average a little higher next year than in 1963.

Unit marketing charges for farm foods averaged 4 percent higher in the third quarter than in the like period of 1962. Much of the rise in marketing charges in 1963 came in the first 2 months of the year. During that period retail prices of beef did not decline nearly as much as prices farmers received for beef cattle, causing the spread to widen. Further, retail prices of canned orange juice and frozen orange concentrate rose much more than prices growers received for oranges following the December freeze in Florida.

Food marketing firms' operating costs have increased this year. Average hourly earnings of employees were 3 percent higher in August than a year earlier. Unit labor costs, however, have not risen as much because of increased output per man-hour. Some other costs also have increased.

Profits of food marketing companies were higher in the first half of 1963

than in the same period of 1962.

Prices farmers received for food products in the family "market basket" averaged about 3 percent lower in the first 9 months of this year than a year earlier. The third quarter average was 4 percent lower this year than in 1962, mainly because of lower prices for beef cattle, hogs, frying chickens, and wheat.

Retail prices of farm-originated food products averaged 1 percent higher in the third quarter this year than in July-September 1962. Compared with levels a year earlier, retail prices in the third quarter were considerably higher for fresh and processed fruits. Prices also increased on some bakery and cereal products and on sugar. But prices of beef and pork and a few other products were down.

Farmers received an average of 37 cents of each dollar consumers spent for farm foods in the first 9 months of this year, 1 cent less than in the same months of 1962. In the third quarter this year, the share also averaged 37 cents. The levels of farm prices and marketing charges that now appear most likely for 1964 will provide a share of 36 cents to farmers. This estimate of the farmer's share does not include allowances for Government payments to producers.

Highlights of Special Articles

Marketings of fruits and vegetables (not including potatoes and sweet potatoes) for fresh use have increased little since the late 1940's, but the volume sold for processing has increased about 40 percent. Retail prices of fresh produce have risen more than those of processed products. Of those processed, frozen products have made the greatest gains in volume. Large retail food chains have increased their buying of fresh fruits and vegetables directly from dealers and growers in producing areas. Increased direct buying is one reason why the number of city fresh produce wholesalers and city auction markets has de-

clined since the 1930's. Transportation companies have made changes to reduce costs and improve their services. In some cities, new central markets with adequate space and facilities for efficient operations have replaced old inefficient markets. Many fruit and vegetable processors have built new plants and installed new equipment. More fruits and vegetables are expected to be marketed in processed form than in fresh form. Greater demand for convenience foods, development of new and improved products, and the use of new processing methods will stimulate this growth. (Trends in Marketing Fruits and Vegetables, p. 17.)

Farm products account for a substantial share of railroads' total revenues. Agricultural revenues react less markedly to annual fluctuations in business cycles than revenues produced by other rail traffic. In each year since 1947, grains, grain products, animal feeds, and canned goods accounted for about 10 percent of all rail traffic revenues, with the share rising to about 13 percent in 1961. In contrast, rail traffic and revenues for highly perishable farm products declined sharply during the same period.

In aggregate, the volume of unmanufactured farm products moving by rail held about constant in 1947-61. At the same time, railroads' share of the total agricultural traffic declined steadily. As farm output increased, barges and trucks, with competitive rates and service advantages, increased their shares of the farm-originated traffic. Trucks made greatest gains in moving grain, livestock, milk and cream, and perishable fruits, berries, and vegetables. Barge shipments of grain increased during this period. (The Role of Railroads in Hauling Farm Products, p. 31.)

President Kennedy sent messages to Congress in 1962 and early in 1963 advocating a revision of present transportation regulatory policy. Bills aimed at accomplishing these results have been introduced in both houses of Congress.

In early 1963, after extensive hearings before a division of the Interstate Commerce Commission, the Southern Railway System put into effect grain rates 60 percent below the prior rates for movements into the Southern States. The new rates applied only to shipments involving 5 carloads (450 tons) or more of grain moving in jumbo-size covered hopper cars from specified origins to specified points in the Southeast. Subsequently, the full 11-man Commission ordered these rates cancelled. A Federal district court order

continued the rates by enjoining their cancellation pending further hearing.

The usual peak-season boxcar shortage is unusually severe this year. A general upswing in business, large grain crops, and unusually heavy movements of grain to ports have combined to aggravate the shortage. A shortage of ships has slowed unloading of boxcars at ports, so that embargoes have been imposed on rail movements of grain to certain port areas. (Developments in Transportation, p. 40.)

FARM-RETAIL SPREADS FOR FARM FOOD PRODUCTS -- RECENT TRENDS AND OUTLOOK

Marketing Charges Rise

Unit charges for marketing farm-originated food products rose slightly in the third quarter this year after remaining relatively steady since February (table 1). The spread between the farm value and retail cost of the farm food market basket rose to an average annual rate of \$690 in the third quarter, up slightly from the preceding quarter.^{1/} Increased charges for marketing fresh fruits, processed fruits and vegetables, and bakery and cereal products caused most of the rise. Spreads increased as prices of oranges declined considerably more at the farm level than at retail, and a decline in the market price of wheat was not reflected in retail prices of bread and flour (table 20, p. 45).

The market basket farm-retail spread in the third quarter this year was 4 percent higher than in the like period

of 1962 (table 2). Much of this increase occurred early this year when marketing charges for beef and for fresh and processed oranges rose sharply. The market basket farm-retail spread in the first 9 months this year averaged 4 percent higher than in the same months of 1962.

Farm Value Up from Second Quarter Level

The farm value of foods in the market basket rose to an average annual rate of \$397 in the third quarter this year, up 2 percent from the April-June average. Much of this rise resulted from larger-than-seasonal increases in farmers' prices for beef cattle, hogs, and milk for fluid use (table 19, p. 44). Prices of eggs showed about the usual seasonal rise.

Though the farm value was higher in the third quarter than in the second, it

^{1/} The "market basket" contains the average quantities of domestic farm-originated food products purchased per family in 1952 for consumption at home by urban wage-earner and clerical-worker families. Additional information concerning contents of the market basket and methods of estimating market-basket data is in Farm-Retail Spreads for Food Products, USDA Misc. Pub. 741, Nov. 1957. Since the market basket does not contain imported foods, fishery products, or the cost of meals in eating places, its retail cost is less than the cost of all foods bought per family. The farm value is the return to farmers for the farm products equivalent to the foods in the market basket. The farm-retail spread is the difference between the retail cost and farm value. It is an estimate of the charges made by marketing firms for assembling, processing, transporting, and distributing the products in the market basket.

Table 1.--The farm food market basket: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1952-63 1/

Year and month	Retail cost <u>2/</u>	Farm value <u>3/</u>	Farm-retail spread	Farmer's share
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Percent</u>
1952	1,034	482	552	47
1953	1,003	445	558	44
1954	986	421	565	43
1955	969	395	574	41
1956	972	390	582	40
1957	1,007	401	606	40
1958	1,064	430	634	40
1959	1,040	398	642	38
1957-59 average	1,037	410	627	40
1960	1,053	407	646	39
1961	1,060	406	654	38
1962 <u>4/</u>	1,067	410	657	38
1963 <u>4/</u>	1,079	395	684	37
<u>1962</u>				
January	1,056	411	645	39
February	1,066	416	650	39
March	1,064	413	651	39
April	1,067	407	660	38
May	1,063	398	665	37
June	1,067	398	669	37
July	1,068	400	668	37
August	1,068	412	656	39
September	1,085	423	662	39
October	1,075	411	664	38
November	1,069	411	658	38
December	1,062	406	656	38
<u>1963</u>				
January	1,078	408	670	38
February	1,084	399	685	37
March	1,079	392	687	36
April	1,071	391	680	37
May	1,069	385	684	36
June	1,075	391	684	36
July	1,088	403	685	37
August	1,090	397	693	36
September	1,082	390	692	36

1/ The farmer's share and index numbers of the retail cost, farm value, and farm-retail spread for the years 1913-61 (1957-59=100) are published in the February 1962 Marketing and Transportation Situation (MTS-144) p. 50. 2/ Retail cost of average quantities purchased per family in 1952 by urban wage-earner and clerical worker families, calculated from retail prices collected by the Bur. Labor Statistics. 3/ Payment to farmers for equivalent quantities of farm produce minus imputed value of byproducts obtained in processing. 4/ Preliminary estimates.

: Current data are given in the Statistical Summary, :
: a monthly publication of the Statistical Reporting Service :

Table 2.--The market basket of farm foods: Retail cost, farm value, farm-retail spread, July-September 1963 and 1962

Item	July- Sept. 1963	July- Sept. 1962	Change: July-Sept. 1963 from July-Sept. 1962	
			Actual	Percentage
	Dollars	Dollars	Dollars	Percent
Retail cost				
Market basket	1,086.59	1,073.46	13.13	1
Meat products	280.21	289.77	-9.56	-3
Dairy products	199.71	199.77	-.06	<u>1/</u>
Poultry and eggs	84.33	83.73	.60	1
Bakery and cereal products	172.77	170.93	1.84	1
All fruits and vegetables	260.18	241.24	18.94	8
Fats and oils	42.01	43.05	-1.04	-2
Miscellaneous products	47.38	44.97	2.41	5
Farm value				
Market basket	397.02	411.93	-14.91	-4
Meat products	141.37	156.47	-15.10	-10
Dairy products	87.20	87.10	.10	<u>1/</u>
Poultry and eggs	50.25	51.45	-1.20	-2
Bakery and cereal products	28.91	30.96	-2.05	-7
All fruits and vegetables	70.38	68.15	2.23	3
Fats and oils	10.95	10.36	.59	6
Miscellaneous products	7.96	7.44	.52	7
Farm-retail spread				
Market basket	689.57	661.53	28.04	4
Meat products	138.84	133.30	5.54	4
Dairy products	112.51	112.67	-.16	<u>1/</u>
Poultry and eggs	34.08	32.28	1.80	6
Bakery and cereal products	143.86	139.97	3.89	3
All fruits and vegetables	189.80	173.09	16.71	10
Fats and oils	31.06	32.69	-1.63	-5
Miscellaneous products	39.42	37.53	1.89	5
Farmer's share of retail cost				
	Percent	Percent	Percentage point	
Market basket	37	38	-1	
Meat products	50	54	-4	
Dairy products	44	44	0	
Poultry and eggs	60	61	-1	
Bakery and cereal products	17	18	-1	
All fruits and vegetables	27	28	-1	
Fats and oils	26	24	2	
Miscellaneous products	17	17	0	

1/ Less than 0.5 percent.

was about 4 percent lower than in the third quarter of 1962. The farm value was down mainly because of lower prices for beef cattle, hogs, frying chickens, and wheat. Prices of many fresh fruits and vegetables and some other products were higher than a year earlier. The farm value averaged 3 percent lower in the first 9 months this year than in the like period of 1962.

Retail Prices Up

The retail cost of the farm food market basket averaged \$1,087 (annual rate) in the third quarter, more than 1 percent higher than in the preceding quarter. Retail costs of most product groups were up (table 19, p. 44).

The retail cost also was 1 percent higher than in the third quarter of 1962. Much of this increase resulted from higher prices for fresh fruits, canned orange juice, and frozen fruits and vegetables. Prices of frozen concentrated orange juice and canned orange juice have risen steadily this year, following the December freeze in Florida. The retail price of sugar was 25 percent higher than a year earlier, but sugar (not including that in bakery and other products) accounts for less than 1 percent of the market basket retail cost. The effect of these increases on the market basket retail cost was partly offset by decreases in prices of beef, pork, and a few other products.

Farmer's Share Averages 37 Cents

Farmers received 37 cents of the dollar consumers spent in retail food stores for farm-originated foods in the third quarter 1963, 1 cent more than in the previous quarter, but 1 cent less than in the third quarter 1962. ^{2/} During 1953-62 the quarterly average farmer's share varied from 37 to 45 cents.

Marketing Charges Down for Beef, Up for Pork

An increase of about 8 percent in the farm value of Choice beef from the second to the third quarter this year was partly offset by a decrease in the farm-retail spread (table 3). Both the wholesale-retail and farm-wholesale segments of the spread decreased. The spread in the third quarter, however, was 11 percent wider than in the third quarter last year; and the farm value was 11 percent lower.

The farm value of pork increased 13 percent from the second to the third quarter this year, and the farm-retail spread increased slightly. Unlike the spread for beef, the third quarter average for pork was slightly smaller in 1963 than in 1962. The farm value for pork in the third quarter this year was 6 percent lower than a year earlier.

The Outlook for 1964

Unit charges for marketing farm food products are expected to go up again in 1964. However, the increase next year probably will be smaller than this year's rise. The rise this year is about 4 percent -- double the average annual increase of 2 percent during 1953-62. Farm-retail spreads for bakery products may increase next year, because any decline that may occur in retail prices of these products is not likely to be as large as the expected drop in the farm prices of wheat. But spreads for a few items may be down from this year's record levels.

Operating costs of food marketing firms probably will rise slightly next year. Average hourly earnings of food marketing employees are likely to continue upward; however, unit labor costs will not rise as much as hourly earnings because of improvements in output per man-hour.

^{2/} This estimate of the farmer's share does not allow for Government payments to producers.

Table 3.--Beef, pork, and lamb: Retail price, wholesale value, farm value, farm-retail spread, and farmer's share of retail price by quarters, 1962-63

[illegible]

1/ Estimated weighted average price of retail cuts.

2/ Wholesale value of quantity of carcass equivalent to 1 lb. of retail cuts: Beef, 1.35 lb.; pork, 1.00 lb.; lamb, 1.11 lb.

3/ Payment to farmer for quantity of live animal equivalent to 1 lb. of retail cuts: Beef, 2.25 lb.; pork, 2.13 lb.; lamb, quantity varies by months from 2.28 lb. in June to 2.42 lb. in March.

4/ Portion of gross farm value attributed to edible and inedible byproduct.

5/ Gross farm value minus byproduct allowance.

6/ Gross and net farm values, farm-retail spread, and farm-wholesale spread have been revised. Byproduct adjustments for beef have been revised for most quarters.

Data for earlier years were published in the Marketing and Transportation Situation, May 1962, (MTS-145).

(p. 10). Prices of some raw materials used in containers and other goods bought by marketing firms have firmed recently, and strength in other prices may be developing; but widespread sizable price increases are not forecast for 1964. Unit transportation costs are likely to be about the same as in 1963, or a little lower.

A small decrease in the total farm value of foods in the market basket is in prospect for 1964, if weather during the year is normal. Much of the decrease will be in bakery products and flour, reflecting a decrease in the price of wheat. Farm values of other product groups probably will be about the same

in 1964 as this year.

Retail store prices of farm-originated food products may average a little higher in 1964 than in 1963. Increases in marketing charges will be partly offset by decreases in farm values.

The farmer's share of the consumer's farm food dollar probably will average about 36 cents in 1964. The farmer's share averaged 37 cents in the first 9 months this year, but it was 36 cents in each of the last 2 months. If it continues at this level in the remaining months of the year, the average for all of 1963 will be 36 cents.

COSTS AND PROFITS IN MARKETING FARM PRODUCTS

Labor Costs

Employees in food marketing establishments earned an average of \$2.15 per hour in August this year, 7 cents more than a year earlier (table 4). This rise equals the average annual increase during 1953-62. The average dipped as usual last summer because of a seasonal increase in the proportion of lower-paid workers.

Increases in average hourly earnings of food marketing employees were comparable to those in other lines of manufacturing and trade. Hourly earnings in food manufacturing establishments averaged \$2.27 in August this year, about 3 percent higher than a year earlier. In all manufacturing establishments, the average was \$2.43, also up about 3 percent from a year earlier. Earnings of employees in retail food stores averaged \$1.88 per hour in August this year, 3 percent higher than in August last year. Average hourly earnings in all retail trade were \$1.80, up 3 percent from the August 1963 level. In the wholesale food trade, employees earned an average of \$2.25 per hour, 4 percent more than in August 1962. This compares with \$2.45 for all wholesale trade, which was 3 percent higher than a year earlier.

Changes in average hourly earnings re-

flect changes in wage rates, in the proportion of employees in lower- and higher-paid groups, and in the number of hours of overtime for which premium rates are paid. Part of the rise in average hourly earnings has resulted from increases in the proportion of higher-paid employees.

Costs of labor per unit of product marketed have not risen as much as hourly earnings in recent years. Unit labor costs in marketing farm food products averaged 6 percent higher in 1962 than the 1957-59 average, although hourly earnings were up 16 percent.

Hourly earnings of employees in establishments manufacturing tobacco products also averaged 3 percent higher in August than in the same month of 1962; wages of employees in establishments manufacturing textile-mill products and apparel and related products were up 2 percent (table 4). Hourly earnings of employees in retail apparel and accessories stores also averaged 2 percent higher than in August 1962.

Transportation Charges

The combined index of railroad freight rates for agricultural commodities averaged 95 last year (1957-59 = 100),

Table 4.--Average hourly earnings of employees of firms marketing food, tobacco, and textiles and related products, 1947-63

Year and month	Food marketing <u>1/</u>	Tobacco manu- facturers <u>2/</u>	Textile-mill products <u>2/</u>	Apparel and related products <u>2/</u>	Retail apparel and accessories stores <u>2/</u>
	Dollars	Dollars	Dollars	Dollars	Dollars
1947-49 Av.	1.11	0.953	1.124	1.197	1.024
1950	1.22	1.076	1.228	1.240	1.062
1951	1.31	1.14	1.32	1.31	1.11
1952	1.38	1.18	1.34	1.32	1.16
1953	1.46	1.25	1.36	1.35	1.21
1954	1.51	1.30	1.36	1.37	1.25
1955	1.58	1.34	1.38	1.37	1.27
1956	1.67	1.45	1.44	1.47	1.30
1957	1.75	1.53	1.49	1.51	1.35
1958	1.82	1.59	1.49	1.54	1.39
1959	1.88	1.64	1.56	1.56	1.44
1960	1.96	1.70	1.61	1.59	1.46
1961	2.03	1.78	1.63	1.64	1.50
1962	2.10	1.85	1.68	1.69	1.55
<u>1962</u>					
Jan.	2.09	1.81	1.65	1.69	1.56
Feb.	2.08	1.84	1.65	1.68	1.54
Mar.	2.09	1.91	1.68	1.69	1.52
Apr.	2.09	1.95	1.68	1.69	1.56
May	2.10	1.97	1.69	1.67	1.56
June	2.10	1.98	1.69	1.67	1.56
July	2.09	1.97	1.69	1.68	1.55
Aug.	2.08	1.80	1.68	1.69	1.53
Sept.	2.10	1.71	1.69	1.70	1.56
Oct.	2.10	1.71	1.69	1.69	1.56
Nov.	2.12	1.86	1.69	1.69	1.57
Dec.	2.13	1.88	1.69	1.68	1.57
<u>1963</u>					
Jan.	2.14	1.90	1.69	1.70	1.60
Feb.	2.15	1.92	1.70	1.70	1.57
Mar.	2.16	1.96	1.70	1.71	1.56
Apr.	2.16	1.98	1.69	1.69	1.60
May	2.17	2.02	1.70	1.69	1.59
June	2.17	2.03	1.70	1.69	1.59
July	2.16	2.04	1.70	1.70	1.58
Aug.	2.15	1.86	1.71	1.73	1.56
Sept.					

1/ Weighted composite earnings in food manufacturing and wholesale and retail food trades calculated by the Econ. Res. Serv. from data of the U. S. Dept. of Labor.

2/ U. S. Dept. of Labor.

down 1 point from the 1961 average and 6 percentage points under the record level in 1957 and 1958 (table 5). Rates for livestock, fruits and vegetables, and wheat averaged slightly lower last year than in 1961, and rates for meat were 5 percentage points lower.

Freight rates for unmanufactured agricultural commodities carried by trucks are not regulated and generally are not published. A survey of motor carriers of exempt farm commodities, conducted in 1962, indicated that the general level of truck rates for these commodities had been fairly stable for several years.

One of the southeastern railroads early this year put into effect new low rates for multi-car shipments of grain (pp. 40-41). If these reductions are allowed to remain in effect, additional downward pressure on the grain rate structure is anticipated as all kinds of carriers try to reduce their costs by putting large-capacity units into operation. The downtrend in rail freight rates that began in 1958 is expected to continue, and truck and barge lines will find it necessary to meet the competition from railroads.

Other Costs

Prices of most goods and services (not including raw materials and labor) bought by marketing firms have changed little this year (table 6). This stability contrasts with the situation a few years ago when prices of most of these items made significant increases every year. In the first half this year prices of containers and packaging materials averaged a little lower than in the first half of 1962. Prices of some other items also were down. Prices of services (rents, property insurance and maintenance, telephone, etc.), however, averaged slightly higher.

Interest rates charged by banks on short-term loans to business firms have been stable in recent years. Rates in 19 large cities in various sections of the United States averaged 5.01 percent in June 1963, the same as a year earlier.

This average was significantly lower than rates prevailing in much of 1959 and 1960.

State and local taxes have continued to increase in many areas. Depreciation charges have risen in recent years because (1) plants and equipment have been expanded, (2) many old facilities have been replaced at higher costs than in earlier years, and (3) many physical assets have been written off at more rapid rates than those formerly used.

Profits

Food marketing firms.--Total profits (after taxes) of corporations manufacturing food and kindred products in the first half this year were 3 percent higher than in the like period of 1962, according to a joint report of the Federal Trade Commission and the Securities and Exchange Commission.

Leading food manufacturing corporations' profits after taxes averaged a little higher in 1962 than in 1961, when expressed as a percentage of stockholders' equity (table 7). Leading baking, grain-milling, and meat packing companies had higher profits, and also a group of 9 large companies manufacturing sugar and various other products. Canning and dairy products companies, however, had lower profits in 1962. After-tax profits as a percentage of sales also averaged a little higher for leading food manufacturing corporations, because of increased profits for grain-milling, meat packing, and miscellaneous corporations in the group. Profits as a percentage of sales were lower for baking and canning corporations.

Profits after taxes were lower in 1962 than in 1961 for 5 large wholesale food distributing companies, both as a percentage of stockholder equity and as a percentage of sales. For 8 leading retail food store companies, after-tax profits as a percentage of stockholder equity were lower in 1962 than in 1961; but as a percentage of sales, they were the same in both years.

Table 5.--Rail freight rate indexes for selected agricultural commodities, 1950-62 ^{1/}

(1957-59 = 100)							
Year	Livestock	Meat	Fruits and vegetables	Wheat	Cotton	Combined index	
1950	75	86	89	79	93	83	
1951	77	89	89	81	96	84	
1952	84	95	94	87	104	90	
1953	86	97	95	89	108	93	
1954	86	97	95	89	108	93	
1955	86	97	95	89	105	92	
1956	90	101	98	94	101	96	
1957	97	107	102	99	100	101	
1958	102	101	100	101	100	101	
1959	101	92	97	100	100	99	
1960	101	91	96	99	100	97	
1961	99	92	97	97	99	96	
1962	98	87	96	96	99	95	

^{1/} Indexes shown here are based on actual rate levels, and rises reflect rate increases actually taken by the railroads. Increases were somewhat below those authorized by the Interstate Commerce Commission. For index numbers 1913-51 and methodology see Methods Used in Computing Rail Freight-Rate Indexes for Farm Products, by Reese, Robert B., U. S. Dept. Agr., AMS-209, issued Oct. 1953, reissued Sept. 1957.

Total profits of leading retail food chains were higher in the first part of 1963 than a year earlier.

Textile, apparel, and tobacco corporations.--Profit ratios were lower for corporations manufacturing textile-mill products in the first half this year compared with the same period of 1962 (table 8). Profit ratios for all of 1962 were near the highest levels of recent years.

Corporations manufacturing apparel and other finished products also had lower profit ratios in the first half of 1963 than

in January-June 1962 (table 8). Profit ratios of these corporations for all of 1962 were the highest for several years.

Total profits (both before and after taxes) of corporations manufacturing tobacco products were 4 percent higher in the first half of 1963 than in the same period last year, according to the FTC-SEC report. After-tax profits of the 5 leading tobacco manufacturing companies averaged 14.1 percent of stockholder equity for all of 1962, down from 14.7 percent in 1961. But the percentage of sales ratio was the same both years (table 7).

Table 6.--Prices of supplies, services, and equipment bought by marketing firms, 1953-1963

Year and quarter	(1957-59 = 100)									
	Intermediate goods and services									
	Goods					Services				
	Total	Containers and packaging materials	Fuel, power and light	Other		1/	2/	Producers' durable equipment	3/	Con- struction costs 4/
1953	89	90	89	91	92	92	88	83	88	88
1954	90	91	89	92	94	94	89	84	88	88
1955	91	91	90	92	94	96	90	86	90	90
1956	95	96	96	96	96	98	93	92	95	95
1957	98	99	99	102	98	100	97	98	99	99
1958	100	100	101	99	100	102	100	100	99	99
1959	102	101	100	100	102	102	103	102	102	102
1960	103	102	102	102	102	102	105	102	104	104
1961	103	102	101	103	102	102	106	102	105	105
1962	104	101	102	103	98	98	108	102	107	107
1962										
Jan.-Mar.	104	102	102	103	99	99	107	102	105	105
Apr.-June	103	102	102	102	97	97	108	103	107	107
July-Sept.	104	101	101	103	98	98	109	103	107	107
Oct.-Dec.	104	101	101	104	98	98	109	102	107	107
1963										
Jan.-Mar.	104	101	101	104	98	98	109	---	108	108
Apr.-June	104	101	101	102	96	96	110	---	109	109

1/ Includes office supplies, restaurant supplies, and many other goods.

2/ Rent, property insurance and maintenance, telephone, etc.

3/ Implicit price deflator for producers' durable equipment, gross national product, U. S. Dept. of Commerce, converted by ERS to 1957-59=100.

4/ Department of Commerce, converted by ERS to 1957-59=100.

Table 7.--Net profits (less provision for taxes on income) as percentage of stockholders' equity and as percentage of sales, leading food and tobacco companies, 1935-62

Year	Food processing companies							5 wholesale food distribu- tors	8 retail food chains	5 tobacco companies
	8 baking companies	7 grain mill products companies	10 meat packers	5 canning companies	10 dairy products companies	9 miscel- laneous food companies	49 companies combined			
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Profits as percentage of stockholders' equity ^{2/}										
Average										
1935-39	8.1	9.7	3.6	5.6	7.9	9.8	7.2	---	8.4	13.9
1940-44	8.7	9.6	7.4	8.6	10.5	9.3	8.9	---	8.5	11.5
1945-49	15.9	13.8	7.3	11.0	13.5	11.9	11.4	17.0	15.5	12.9
1950	15.8	13.4	6.0	15.4	13.3	12.6	11.5	10.0	14.0	13.5
1951	11.9	11.0	5.0	6.9	10.3	9.0	8.5	9.4	10.1	9.9
1952	12.4	11.0	3.8	7.5	9.9	9.0	8.2	5.8	10.0	9.5
1953	12.7	10.7	6.6	6.6	11.1	9.3	9.2	7.6	11.4	10.1
1954	11.9	12.4	2.7	7.8	12.2	9.9	8.9	7.5	11.3	10.6
1955	12.0	12.4	6.5	10.0	12.0	10.4	10.2	6.7	11.2	12.0
1956	12.2	11.7	6.9	8.1	12.1	11.2	10.3	7.6	13.1	12.1
1957	12.6	12.8	3.9	6.0	11.8	11.4	9.6	7.6	14.2	12.8
1958	11.7	13.5	4.2	8.4	11.5	12.3	10.1	9.7	13.8	14.6
1959	11.8	11.8	7.4	8.2	11.3	12.6	10.7	8.1	12.9	14.8
1960	11.7	11.9	6.0	8.6	10.8	12.6	10.3	9.9	12.5	14.7
1961	9.5	11.4	4.4	7.8	10.3	13.1	9.7	8.6	11.3	14.7
1962 ^{3/}	9.7	11.8	5.1	6.8	10.2	13.4	9.9	5.5	11.0	14.1
Profits as percentage of sales										
Average										
1935-39	6.9	3.8	0.9	3.1	3.1	8.6	3.0	---	1.5	9.1
1940-44	4.6	3.0	1.2	3.4	2.9	6.3	2.5	---	1.1	5.7
1945-49	4.8	3.1	1.0	4.1	2.8	5.2	2.4	1.7	1.4	4.6
1950	4.9	3.1	.8	5.3	3.2	5.3	2.5	1.2	1.3	5.1
1951	3.5	2.3	.6	2.5	2.2	3.7	1.7	1.1	.9	3.8
1952	3.6	2.5	.4	2.7	2.1	3.6	1.6	.7	.8	3.4
1953	3.5	2.5	.8	2.3	2.3	3.6	1.9	1.0	1.0	3.8
1954	3.5	2.9	.3	2.8	2.6	3.8	1.9	1.0	1.0	4.3
1955	3.4	3.1	.8	3.7	2.6	4.0	2.2	.9	1.0	4.9
1956	3.4	2.9	.8	3.0	2.6	4.0	2.2	1.0	1.1	5.0
1957	3.4	3.4	.5	2.2	2.6	4.1	2.1	.9	1.2	5.2
1958	3.4	3.8	.5	3.0	2.6	4.2	2.2	1.2	1.2	5.7
1959	3.3	3.2	.9	3.0	2.6	4.2	2.4	1.1	1.2	5.9
1960	3.2	3.4	.8	3.4	2.6	4.4	2.4	1.2	1.2	6.0
1961	2.7	3.2	.5	3.1	2.5	4.6	2.3	1.1	1.2	6.1
1962 ^{3/}	2.6	3.7	.6	2.7	2.5	4.7	2.4	.7	1.2	6.1

^{1/} Includes sugar and corn refining companies, processors of vegetable oils, and companies manufacturing a wide variety of packaged foods. ^{2/} Ratio of net profits to average of stockholders' equity at the beginning and end of the year. Stockholders' equity is excess of total balance sheet assets over liabilities.

^{3/} Preliminary.

Compiled from "Moody's Industrial Manual" and company annual reports.

Table 8.--Net profits (before and after taxes on income) as percentages of stockholders' equity and sales, corporations manufacturing textile-mill products and apparel and finished textiles, 1951-63

Year and quarter	Profits as percentage of --							
	Stockholders' equity				Sales			
	Textile-mill products		Apparel and other finished products		Textile-mill products		Apparel and other finished products	
	Before taxes	After taxes	Before taxes	After taxes	Before taxes	After taxes	Before taxes	After taxes
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1951	18.7	6.7	10.7	3.4	7.3	2.6	2.3	0.7
1952	9.1	3.3	11.3	4.7	3.9	1.4	2.6	1.1
1953	9.3	3.6	11.2	4.9	4.3	1.7	2.6	1.1
1954	4.9	1.5	10.0	4.4	2.5	.8	2.4	1.1
1955	10.2	4.5	12.7	6.0	4.3	1.9	2.8	1.3
1956	11.1	5.4	16.5	8.1	4.8	2.4	3.3	1.6
1957	8.5	4.0	13.1	6.3	3.8	1.8	2.7	1.3
1958	7.4	3.5	11.7	5.0	3.4	1.6	2.3	1.0
1959	14.1	7.5	16.8	8.7	5.7	3.0	3.0	1.5
1960	12.0	5.8	15.8	7.7	5.1	2.5	2.8	1.4
1961	10.4	5.0	15.4	7.3	4.4	2.1	2.7	1.3
1962	12.7	6.2	17.8	9.3	5.0	2.4	3.1	1.6
<u>1962</u>								
Jan.-Mar.	11.4	5.3	14.4	6.7	4.7	2.2	2.8	1.3
Apr.-June	13.0	6.3	16.0	7.9	5.1	2.5	2.9	1.4
<u>1963</u>								
Jan.-Mar.	10.1	4.4	14.4	6.4	4.2	1.8	2.8	1.2
Apr.-June	12.4	6.2	14.9	6.7	4.9	2.4	2.7	1.2

Computed from data in the "Quarterly Financial Report for Manufacturing Corporations" 1952-63 issues, published by the Federal Trade Commission and Securities and Exchange Commission.

TRENDS IN MARKETING FRUITS AND VEGETABLES 1/

Producers, distributors, and processors of fruits and vegetables have adjusted to many production and marketing changes in the last 20 years. These changes include greater specialization in production, improved farming practices, higher volume of the products processed, slow growth in the volume marketed fresh, the rise of supermarkets, increased buying at shipping points by retailers, and the development of new processed products.

Reasons for change in the fruit and vegetable industry include such broad social and economic forces as population growth, rising levels of living, increased urbanization, and changes in consumers' tastes. Specific factors accounting for changes included such developments as new and improved varieties of crops, improved technology in production and processing, more rapid and efficient communication facilities, and faster and more dependable transportation.

This article attempts to summarize some of the changes of the last 2 decades and discusses some likely future changes.

Production and Utilization

Fruit.--The volume of fruit marketed for fresh consumption has declined since World War II. Grower sales of the principal fruits to fresh fruit marketing firms and consumers averaged 6.6 million tons in 1960-62, a 14 percent smaller volume than in 1947-49. 2/ Sales of fresh noncitrus fruits dropped only slightly, but fresh citrus fruit sales were down 26 percent in 1960-62 from the earlier period.

Growers' annual sales of fruits to processors averaged about 10.4 million tons in 1960-62, about a third more than in 1947-49. The volume of citrus fruits

sold to processors was 56 percent larger than in 1947-49, and sales of noncitrus fruits were up 18 percent. By 1960-62, the volume of both kinds of fruits processed exceeded that marketed for fresh use.

Fruit production is concentrated in areas having a comparative advantage due largely to climate, and to a lesser extent to production facilities and market outlets. Fruit production though retarded at times because of adverse weather, is relatively stable because it involves long-range investment. Once established, groves, orchards, and vineyards are not readily abandoned in response to higher production costs or lower fruit prices.

Deciduous fruit production is widely dispersed, geographically, but the Pacific Coast States accounted for about three-fifths of the production in 1960-62. Other concentrated-producing areas are in Michigan, New York, and the Appalachian area. Citrus fruit production increased in Florida between the 1947-49 and 1960-62 periods, and declined in California. Florida produced about three-fourths of the citrus fruit in 1960-62. California, Arizona, and Texas accounted for most of the remainder.

Vegetables.--The annual commercial production of vegetables and melons to be marketed mainly in fresh form averaged 12.5 million tons in 1960-62, compared with 11.0 million tons in 1947-49. Production to be marketed in processed form averaged 8.3 million tons in 1960-62, up from 5.5 million tons in 1947-49.

California, the leading State in the production of fresh market vegetables and melons, accounted for about 32 percent of total U. S. production in 1960-62. Florida, the second leading State, produced about 14 percent of the total. Texas ranked third with 10 percent, and Arizona fourth with 7

1/ Prepared by Jules V. Powell, agricultural economist, Marketing Economics Division, Economic Research Service, USDA.

2/ Data in this section were compiled from reports of the Statistical Reporting Service, USDA.

percent. Each of these States increased its share of the U. S. total from 1947-49 to 1960-62. The Western States produced 45 percent of the total for fresh use in 1960-62, compared with 42 percent in 1947-49. Production increases in California, Florida, Texas, and Arizona have also raised U. S. output of winter and spring vegetables relative to summer and fall vegetables. Consumers have benefited from the reduction in fluctuation of supplies and the extended marketing season for most fresh vegetables.

The Western States lead other U. S. regions in production of vegetables for processing. Such production in these States more than doubled from 1947-49 to 1960-62. They produced 45 percent of the total U. S. volume in 1960-62 compared with 32 percent in 1947-49. Production in the North Central region, second in rank, increased about a third from 1947-49 to 1960-62. In the latter period, these States produced 32 percent of the U. S. total compared with 37 percent in 1947-49.

Potatoes and sweetpotatoes.-- Potato production averaged 272.6 million hundredweight a year in 1960-62, up 13 percent from the 1947-49 average. Production of sweetpotatoes averaged about 16.6 million hundredweight in 1960-62, down 34 percent from 1947-49.

Increased specialization.--According to Census enumerations, farms harvesting vegetables for sale numbered 184,162 in 1959, down from 347,850 in 1949. ^{3/} The number of farms producing fruits also decreased. These decreases indicate that specialization in production has increased.

Much of the production of fruits and vegetables, particularly in the concentrated-producing areas, is on farms that are large, specialized, highly mechanized, and efficient. Not many years ago, most

fruits and vegetables were produced mainly for the fresh market, and the excess production was sent to processors.

Specialization, mechanization, improved cultural practices, and better plants have greatly increased efficiency. The index of man-hours of labor used in vegetable production declined from 147 in 1947-49 (1957-59 = 100) to 93 in 1960-62. During the same period, the index of farm production of vegetables rose from 94 to 107. ^{4/} For fruit and nut crops, man-hours used in production decreased from 118 in 1947-49 to 101 in 1960-62, while the index of farm production rose from 97 to 105.

Concurrent with the development of new technologies of production and harvesting, is the development of new varieties of fruits and vegetables that are more adaptable to these new techniques, give higher yields, have more flavor, and retain quality better in marketing channels. Several tomato varieties, introduced in California and Ohio, are more adaptable to mechanical harvesting than varieties previously grown.

Tomato production in southern New Jersey furnishes an example of the increased yields. New Jersey's tomato acreage has decreased but production has increased. Growers, especially those producing for processors, have increased their yields per acre. Only a few years ago, a 10-ton per acre yield was a mark of distinction. Today, some New Jersey growers average 15 tons per acre, and in 1961 the champion grower produced 33 tons. ^{5/} For potatoes, the national average yield rose from 80 hundredweight per acre in 1940 to 1944 hundredweight in 1962.

Consumption

The annual per capita consumption of

^{3/} A change in the Census definition of a farm accounted for a small part of the decrease in the number of farms.

^{4/} Changes in Farm Production and Efficiency, A Summary Report, 1963, Stat. Bull. 233, (Revised July 1963) U. S. Dept. Agr., Farm Prod. Econ. Div., Econ. Res. Serv.

^{5/} Business Review, Federal Reserve Bank of Philadelphia, September 1962.

fruit in all forms decreased from 212 pounds (fresh equivalent) in 1947-49 to 196 pounds in 1962. However, per capita consumption has varied closely around the 200 pound level since 1950. Between 1947-49 and 1962, consumption of vegetables (excluding potatoes, sweetpotatoes and melons) increased from about 200 to 207 pounds per capita (tables 9 and 10). Shifts in the proportions consumed fresh, canned, frozen and dried occurred for both fruits and vegetables. While the per capita consumption of fresh products declined, per capita consumption of canned and frozen fruits and vegetables increased.

The phenomenal increase in the consumption of frozen concentrated citrus juices is the most striking change in fruit consumption. These products, introduced in the late 1940's, were consumed at a rate of 37 pounds (fresh weight equivalent basis) per person in 1962--45 percent of the total per capita consumption of citrus fruits. Canned citrus juices accounted for an additional 17 percent. Per capita consumption of fresh citrus fruits declined 47 percent from 1947-49 to 1962. Total consumption of citrus fruits in all forms declined 7 percent.

From 1947-49 to 1962, per capita apple consumption declined 11 percent. In 1962, 72 percent was consumed fresh, compared with 84 percent in 1947-49. Per capita consumption of canned apples (mostly apple sauce) and juice increased sharply, but these items accounted for only 24 percent of all apples consumed in 1962. Frozen and dried apples are minor items, and consumption of both declined from 1947-49 levels.

Per capita consumption of other non-citrus fruits also declined. These items display much the same consumption pattern as apples except that the frozen products show increases. Fresh fruits accounted for nearly 50 percent of per capita consumption of these noncitrus fruits in 1962, down from 56 percent

in 1947-49. Canned and frozen fruit and canned juices accounted for 40 percent of the consumption of noncitrus fruit except apples in 1962, compared with 29 percent in 1947-49.

Similar, though less dramatic, are shifts in vegetable consumption. In 1962, consumption of all vegetables and melons totaled 347 pounds (fresh equivalent) per person, 2 percent less than in 1947-49. This 1962 total comprised 117 pounds of potatoes and sweetpotatoes, 23 pounds of melons, 60 pounds of tomatoes, and 147 pounds of all other vegetables. Of these 4 broad groups, only per capita consumption of tomatoes increased. This rate for tomatoes increased by 23 percent from 1947-49, but all of it showed up in the form of canned tomatoes and tomato products. Consumption of fresh tomatoes decreased 9 percent from 1947-49.

Per capita consumption of all other fresh vegetables (as a group) declined, and was only partially offset by increased consumption of canned and frozen vegetables. Frozen leafy, green, and yellow vegetables increased 163 percent from 1947-49 to 1962, and frozen "other" vegetable use increased 193 percent during the same period. However, the frozen form accounted for only 17 percent of the per capita consumption of the leafy, green, and yellow vegetables and 6 percent of the "other" vegetables.

Dramatic shifts have occurred in the consumption of potatoes and sweetpotatoes. While the per capita consumption of fresh potatoes decreased from 113 pounds in 1947-49 to 99 pounds in 1962, ^{6/} frozen potato use increased from 0.1 pound in 1947-49 to 9.3 pounds per person in 1962. Consumption of dehydrated potatoes rose from 0.2 pound in 1950 to 5.2 pounds per person in 1962. However, frozen potatoes account for only 8 percent of the total per capita consumption, and dehydrated potatoes for 5 percent.

Consumption of fresh sweetpotatoes declined greatly from 1947-49 to 1962.

^{6/} These averages include small quantities of potatoes processed into potato chips and shoe-string potatoes.

Canned (including small quantities of dehydrated) sweetpotatoes increased 200 percent during the same period, but the per capita consumption of 1.5 pounds in 1962 comprised only 19 percent of the total.

Per capita consumption of all fruits and vegetables combined has declined because of less consumption of fresh produce and only partially offsetting increases in the processed products. In 1962, fresh fruits and vegetables, (excluding potatoes, sweetpotatoes, and melons) accounted for half the total per capita consumption of these items. The large volume increase of canned and frozen fruits and vegetables between 1947-49 and 1962 indicates that in the years ahead an increasing portion of total per capita consumption will consist of the processed forms.

Expected shifts between fresh and processed forms of certain fruits and vegetables took place, but the overall consumption level throughout the 1950's remained fairly constant. Changes in relative prices of various food products may partly explain why over-all growth did not occur. Retail prices of fresh fruits averaged 43 percent higher in 1962 than in 1947-49; retail prices of fresh vegetables were up 35 percent. Processed fruits and vegetables showed a smaller rise--17 percent. During the same period retail prices of all farm-originated foods increased only 14 percent.

Wholesaling Fresh Fruits and Vegetables

The growth of direct buying.--Retail food chains in the early 1920's began buying fresh fruits and vegetables directly from shipping-point dealers and growers rather than from city wholesalers. The national chains adopted the practice first, and some large regional and local chains joined in by the late twenties. By 1936,

chains purchased directly at shipping points 10 to 15 percent of the produce volume entering the major wholesale markets. In 1958, direct purchases at shipping points by corporated and voluntary chains and retailer-owned cooperatives accounted for 26 percent of the total receipts in 52 large cities. ^{7/} Chains and other retail organizations in these 52 cities bought 50 percent of their total volume directly at shipping points and an additional 6 percent directly from nearby producers.

After World War II, the number of chains large enough to engage in direct buying increased rapidly. National and regional chains did about 90 percent of the direct buying in 1958. The percentage of total retail food store sales made by the national chains has changed little since the mid-1930's. However, the regional chains' share has increased sharply, as their number and size has grown. In 1935, 3 regional chains did about 3 percent of the total retail food store business. By 1948, 8 regional chains had 5 percent of the business; and by 1958, 20 did 12 percent of the business. Thus, most of the increase in direct buying was due to the increased number and sales of regional chains. Some large local chains that started direct buying accounted for the remaining portion of the increase. Some retailer cooperative and voluntary chains have added produce lines and are buying some items directly at shipping points.

Procurement methods and buying practices of different purchasing groups vary, but there are broad similarities within the major types. Each of the national retail food chains has an extensive field-buying staff, with offices (year-round or seasonal) in the major producing areas. These buyers, who are familiar with supplies in the area and the requirements of their firms, can buy from growers and shippers on the basis of actual inspection. The national chains buy about

^{7/} Manchester, Alden C., "The Changing Organization of Wholesale Markets," Produce Marketing, May 1962. The section on marketing fresh fruits and vegetables is based largely on research work conducted by the Marketing Economics Division, ERS.

Table 9.--Fruits: Per capita consumption, farm-weight equivalent, average 1947-49, and years 1960-62 1/

Product	1947-49	1960	1961	1962 <u>2/</u>	Percentage change : 1962 from 1947-49
	Pounds	Pounds	Pounds	Pounds	Percent
Citrus fruits:					
Fresh <u>3/</u>	54.8	33.3	30.4	29.1	-47
Canned <u>4/</u>	1.8	2.7	2.5	2.6	44
Juice, canned <u>5/</u>	30.8	15.3	13.7	14.4	-53
Juice, frozen concentrate	2.5	34.3	32.3	37.3	1,392
Total	89.9	85.6	78.9	83.4	-7
Apples:					
Fresh <u>6/</u>	25.5	20.1	18.6	19.5	-24
Canned	2.7	4.9	5.1	4.9	81
Juice, canned	.4	1.4	1.5	1.6	300
Frozen	.6	.7	.6	.5	-17
Dried	1.2	.7	.7	.7	-42
Total	30.4	27.8	26.5	27.2	-11
Other fruits:					
Fresh	51.8	44.1	43.0	40.4	-22
Canned	18.4	21.1	21.4	21.4	16
Juice, canned	5.7	8.1	9.7	9.5	67
Frozen	2.5	3.0	3.1	3.4	36
Dried	13.5	10.5	10.2	10.2	-24
Total	91.9	86.8	87.4	84.9	-8
Total	212.2	200.2	192.8	195.5	-8

1/ Excludes quantities consumed as baby food. Unless otherwise noted, data are for a calendar year. Civilian consumption only.

2/ Preliminary.

3/ Seasons start October or November prior to year indicated.

4/ Pack year beginning November prior to year indicated. Data for 1960-62 include chilled segments.

5/ Includes chilled juices.

6/ Apples grown in commercial areas only.

The Fruit Situation, ERS, USDA, TFS-148, Aug. 1963. Farm-weight equivalent derived using constant conversion factors for individual fruits and vegetables, except juices, for which factors have been adjusted since 1948 to allow for increased yield.

Table 10.--Vegetables, melons, potatoes, and sweetpotatoes: Per capita consumption, farm weight equivalent, 1947-49 average, and by years 1960-62 1/

Product	1947-49	1960	1961	1962 <u>2/</u>	Percentage change : 1962 from 1947-49
	Pounds	Pounds	Pounds	Pounds	Percent
Tomatoes:					
Fresh	13.8	12.6	12.7	12.5	-9
Canned <u>3/</u>	34.6	45.6	46.8	47.1	36
Total	48.4	58.2	59.5	59.6	23
Vegetables, leafy, green, yellow: <u>4/</u>					
Fresh	62.0	52.1	51.9	51.0	-18
Canned <u>3/</u>	16.3	16.3	16.0	16.0	-2
Frozen	5.2	12.8	12.6	13.7	163
Total	83.5	81.2	80.5	80.7	-3
Vegetables, other:					
Fresh	44.8	41.3	40.5	39.4	-12
Canned <u>3/</u>	21.6	22.0	21.4	22.9	6
Frozen	1.4	3.1	3.4	4.1	193
Total	67.8	66.4	65.3	66.4	-2
Total vegetables	199.7	205.8	205.3	206.7	4
Melons	27.4	25.7	24.8	23.1	-16
Potatoes:					
Fresh <u>5/</u>	113.4	101.6	102.2	98.9	-13
Canned	.3	.6	.7	.6	100
Frozen	.1	6.6	7.1	9.3	9200
Total	113.8	108.8	110.0	108.8	-4
Sweetpotatoes:					
Fresh <u>6/</u>	12.5	6.3	5.6	6.4	-49
Canned <u>3/</u>	.5	1.0	1.1	1.5	200
Total	13.0	7.3	6.7	7.9	-39
Total	353.9	347.6	347.3	346.5	-2

1/ Excludes home-garden production. Civilian consumption only.

2/ Preliminary.

3/ Excludes quantities used for soups and baby food.

4/ See Consumption of Food in the United States, 1909-52 for items included.

5/ Potatoes used fresh plus processed items other than canned and frozen (i.e., quantities dehydrated, used for chips and shoestrings in mixtures and flour).

6/ Includes processed sweetpotatoes other than canned.

Supplements for 1961 and 1962 to Consumption of Food in the United States, 1909-52, ERS, USDA, sup. for 1962 to Agr. Handbook 62, Oct. 1963.

70 percent of their total supplies directly at shipping points, nearly all by their own field buyers.

The regional chains--those with produce warehouse divisions in different cities--are not large enough to maintain field buying offices as extensive as the national chains, but many have field offices in major production areas. The regional chains buy about half of their supplies directly at shipping points. Of their direct purchases, about 45 percent are made through their own field buyers and another 45 percent from the central office by telephone. About 10 percent is bought through buying brokers at shipping points.

Local chains--those with only one warehouse--usually do not have their own field buying staff. They purchase less than 30 percent of their volume of produce at shipping point. Of these direct purchases, nearly two-thirds are made by telephone directly to the shipper and the remaining third through buying brokers at shipping points.

Few wholesaler-sponsored voluntary food chains handle fresh fruits and vegetables. Those that do, buy about a third of their produce directly from shipping point--almost three-fourths by telephone and the remainder through shipping-point buying brokers.

The retailer cooperatives--wholesale organizations owned by member retailers--buy about 13 percent of their volume directly from shipping point. About two-thirds of direct purchases are made through shipping-point buying brokers and one-third by telephone.

Retail food chains adopted direct buying of fruits and vegetables at retail to obtain the quality of product in adequate volume they needed at a particular time. When "specials" on fruits and vegetables are planned, a large chain generally does not want to rely on terminal markets whose supply consists mainly of smaller lots of nonuniform quality. Also, direct buying avoids terminal market brokerage fees and other selling costs. Handling

costs in terminal markets often have been high because of inadequate facilities, traffic congestion and high cartage charges.

City wholesalers still play an important role in marketing fresh fruits and vegetables despite increased rise of direct buying. Large chains do some buying from city market dealers, and many smaller chains buy from city dealers all but a few fresh fruits and vegetables, such as potatoes, onions, and citrus fruits that are sold in large volume. The smallest chains, unaffiliated independent retailers, restaurants, and institutions generally buy all their fresh produce from city dealers.

Changes in wholesale markets.--The total volume of fresh fruits and vegetables handled by city wholesalers declined about 10 percent between the late 1930's and the late 1950's. This decline resulted from the growth in direct buying and an increase of only about 1 percent in the combined volume of domestic and imported fresh fruits and vegetables marketed. The decline in volume handled by city wholesalers may explain at least in part the reduction in the number of wholesale firms. According to the Red Book, the number of wholesalers of all types in 145 markets declined 19 percent between 1939 and 1958. The number of receivers, commission merchants, and receiver-jobbers declined 27 percent. Also, the number of jobbers declined 29 percent, brokers, 41 percent, and buying brokers, 8 percent. During the same period, the number of repackers and packagers listed increased from 15 to 205; truck jobbers increased 44 percent; and the number of importers and exporters remained unchanged. Some of these changes in numbers of firms by classes may have resulted from firms altering the nature of their operations and services in response to changing needs and demands of the wholesale markets.

Since 1939, 5,100 wholesalers in the 52 markets surveyed by the Economic Research Service have left the produce business. But, in that same period, 3,700 others entered the field. Of the

firms in business in 1958, 8 percent had been in business 50 years or more; a third for 30 years or more; and 19 percent were new within the last 16 years or less.

The number of auction markets also has declined in recent years. Auctions in Baltimore and Cincinnati discontinued operation within the last 6 years. Terminal auctions operated in 8 cities in 1962 but in 12 cities in 1935. Fruit auctions were the major distributors for citrus and West Coast deciduous fruits. In 1930, they handled 84 percent of the citrus fruit received in auction cities and nearly as high a percentage of western deciduous fruits. They were the mass distributors of these fruits at the wholesale level. They maintained this position fairly well during the 1930's.

Auction sales declined from a third of all citrus and 10 percent of all deciduous fruit fresh sales in 1937 to 15 percent of the citrus and 6 percent of the deciduous fruit sales in 1957.

The auctions are becoming specialty distributors rather than mass distributors. Sales of higher-valued fruits are holding up much better than those of lower-priced, large-quantity items. Chainstores and wholesalers prefer to buy their large volume produce items directly from shipping points. The auctions seem well suited to the sale of imported fruit -- most of it from Chile and Argentina -- and the New York City auction probably will retain a large share of the sales of these commodities. Other auctions are in Boston, Chicago, Cleveland, Detroit, Philadelphia, Pittsburgh and, St. Louis.

Wholesale markets for fresh fruits and vegetables gradually are being forced to move from old inefficient locations in the larger cities to areas on the peripheries where land is cheaper and more adequate facilities can be built. Traditional wholesale markets usually consisted of multi-story buildings on either side of narrow streets. The buildings were inefficient for servicing orders and increased truck transport made the streets impassable

during peak trading hours.

New markets built in many major cities consist of groups of 1-story buildings with rail docks on one side and wide truck-loading platforms on the other. These markets are food distribution centers that handle other food products in addition to fresh fruits and vegetables. The buildings are well adapted to the use of modern materials-handling equipment, such as fork-lift trucks and conveyor belts. Each wholesale company has ample refrigerated storage facilities for holding fruits and vegetables. In some warehouses, several cold rooms are available, each with different temperature settings, so that each fruit or vegetable may be stored at the proper temperature for optimum quality.

New, more convenient, and more efficient wholesale facilities have enabled some firms to become less specialized in the wholesale function. Firms now can handle a wider variety of fruits and vegetables and offer more services to customers. Many items that formerly were packaged at the retail or shipping-point levels are now prepackaged in the new wholesale facilities. The number of firms prepackaging produce -- especially tomatoes -- has increased sharply in recent years, while the number of regular produce wholesalers has declined.

Transportation.--Transportation costs account for a larger part of marketing costs for fresh fruits and vegetables than for other food product groups. This is true because: (1) Some areas best adapted to producing these crops are distant from many of the large population centers, and (2) the products are perishable and relatively bulky.

An outstanding development in transporting fresh produce in recent years has been the shift from rail to highway transport. Though the tonnage of fresh fruits and vegetables marketed by growers was 4 percent larger in 1961 than in 1947-49, rail shipments were 45 percent smaller than in the earlier period. Much

of the diversion from rail to motor-truck transport was in short-haul shipments. Thus, the decline in rail shipments from the Pacific Coast States to eastern markets has been almost negligible, and the decline in shipments from Florida to eastern markets was much greater than 45 percent.

The expanded use of trucks since World War II accompanied a decline in rail shipments and, to a much smaller extent, the demise of coastwise water transport from Florida to Atlantic Coast cities. During the 1930's between one-third and one-half of the marketings of Florida citrus fruit was transported by ships to New York and other East Coast cities. In 1935, 12,744 carload equivalents of oranges, out of a total of 22,702, were transported by ships. During World War II, citrus shipments were curtailed since ships were needed by the armed services. After the war, sharp increases in coastwise carrier rates were required to cover increased capital, labor, and other costs of ship operations. Higher rates caused a diversion of shipments from water to rail and highway transport. Only a few water shipments were made in 1946 and none since. Truck shipments of Florida citrus fruits and vegetables to northern and eastern markets grew rapidly, aided by back hauls of deciduous fruits to the booming population in Florida and other southeastern States and grain to the rapidly-growing broiler industry in Georgia.

Big improvements in highways and vehicles favored growth in truck traffic. Highways were widened, cities bypassed, and routes shortened. Diesel-powered tractors became common. Lighter-weight and stronger materials in trailers increased payloads and decreased operating costs. Many trucks were equipped with mechanical refrigeration units, providing lower temperatures and a better control than older methods of refrigeration. Truck terminal facilities also were improved. Truck shipments were particularly adapted to supplying markets too small to

take rail car shipments. Trucks enabled these markets to receive produce directly from producing areas rather than through a nearby city wholesale market.

Railroads likewise improved their services. Adoption of diesel locomotives made possible faster schedules, longer and heavier trains, and lower costs. Centralized traffic control also speeded schedules. Waiting time in classification yards -- one of the principal reasons shipping generally is slower by rail than by truck -- was reduced. Refrigerated rail cars, like trucks, were greatly improved. Recently railroads offered shippers of fruits and vegetables rates that are lower per package if rail cars are loaded to heavier weights. The improved structure and refrigeration equipment of modern refrigerator cars made heavier loading feasible. Newly developed methods of loading, improved refrigeration, more precooling before shipment, and use of mold inhibitors reduce the risk of spoilage.

Railroads began piggy-back shipments of fresh fruits and vegetables from some areas in the 1950's. Shipping loaded trailers on flat-bed rail cars provided the flexible-type transportation shippers found so advantageous in truck transportation. Fruits and vegetables can be loaded in a trailer at a country packing house, transported to the rail head, and delivered at the city warehouse (which need not be on a railroad) of a food chain or wholesaler for unloading.

In 1962, 10,696 trailers loaded with fresh fruits and vegetables were shipped piggy-back, up from 2,421 in 1960.^{8/} In the first 6 months of 1963, piggy-back shipments of these products totaled 8,077 trailers, suggesting the possibility of a 60 percent increase this year over 1962.

Marketing Processed Products

Changes in the processing industries.--
The 1961 output of industries producing

^{8/} Shipment data obtained from Agricultural Marketing Service, USDA.

processed fruits and vegetables was 64 percent higher than the 1947-49 average. ^{9/} Plants producing frozen fruits and vegetables increased output more than canning and preserving plants. The index of output of frozen fruits and vegetables (1947-49 = 100) was 416 in 1960, compared with an index of 130 for canned fruits and vegetables.

The number of plants drying and freezing fruits and vegetables was larger in 1958 (the latest year for which census data are available) than in 1947, but fewer plants were canning these products. Fewer plants in the canning industry does not necessarily indicate less total plant capacity. Many fruit and vegetable canning firms have built new plants and installed new equipment to modernize and enlarge existing facilities. Since a company generally builds a plant or installs equipment to accommodate an expected increase in output, new and modernized plants often are larger than plants they replace. In some instances, new equipment and processes were suitable only for relatively large plants.

Entry into the fruit and vegetable processing industry is relatively easy compared with entry into many other industries, and competition is keen. Large firms in the canning and freezing industries have a smaller share of total industry sales than in many other food manufacturing industries. The 4 largest fruit and vegetable canning companies made 29 percent of industry sales in 1958, about the same share as in 1947; the 20 largest companies made 55 percent of total sales, up from 46 percent in 1947. ^{10/} The 4 largest freezing companies accounted for 31 percent of total industry sales in 1958, compared with 39 percent in 1954 (the earliest year

for which data are available). In the dehydrated fruits and vegetables industry, the 4 largest firms had 45 percent of the total sales in 1958 and 26 percent in 1947. Concentration in the dehydrating industry appears to have increased, probably due to the decline of sun-drying and the increased equipment needed for new, faster, methods of dehydrating.

The location of the fruit and vegetable canning industry, as indicated by census data on value added by manufacture in various regions, appears to have remained rather steady in the 1950's. Slight decreases in the percentage of total value added in the Middle and South Atlantic Regions were offset by increases in the East North Central and Western Regions. In the freezing industry, the percentage of the total value added by manufacture declined in the Middle Atlantic, West South Central, and Western Regions, but increased in New England (greatly expanded freezing of potatoes) and the South Atlantic Region.

Western States account for much of the output of processed deciduous fruits. Practically all of the dried fruit and 75 percent of the canned and other processed deciduous fruit are produced there. Florida leads in production of processed citrus fruits. The Western Region also leads in the volume of vegetables processed. Much of the increase in that region has been in frozen vegetables. The North Central Region produces a large share of the canned vegetables.

Output per man-hour in 1958 was 41 percent greater than in 1947-49 in plants processing fruits and vegetables. ^{11/} Improvements in plant and equipment accounted for much of this increase. New plants generally were designed to improve

^{9/} Waldorf, William H., Output of Factories Processing Farm Food Products in the United States, 1909-1958, U. S. Dept. Agr. Tech. Bull. 1223, Sept. 1960. Data for 1959-61 were furnished by the author.

^{10/} Concentration Ratios in American Industry, report prepared by the Bureau of the Census for the Subcommittee on Antitrust and Monopoly to the Committee on the Judiciary, United States Senate, (87th Cong., 2d Sess., 1957) table 2.

^{11/} Waldorf, William H., Output Per Man-Hour in Factory Processing of Farm Products, U. S. Dept. Agr., Tech. Bull. 1243, May 1961.

efficiency in materials handling and work flow. Use of fork-lift trucks and conveyor systems reduced the man-hours required to handle raw materials and finished products. Continuous cookers replaced batch methods in canneries. A continuous dehydrator now is used. It has a belt-trough dryer on which fruit is dried uniformly and cuts labor costs. These illustrate only a few of many improvements. Improvements in labor and management skills and economies of scale have also increased output per man hour.

Potatoes.--The rapid growth in potato processing is a significant recent development in the food industries. Approximately 54.5 million hundredweight of potatoes from the 1962 crop were processed into food products. This quantity compares with 40.1 million hundredweight from the 1959 crop. Potato volumes used for processed food items, such as chips and frozen, dehydrated and canned products have increased steadily in recent years.

Processors of potato chips and shoe-string potatoes took about 44 percent of the potatoes processed for food from the 1962 crop. Potatoes used for making french fries totaled 15.9 million hundredweight, the same quantity as from the previous crop and 2.3 million hundredweight (19 percent) more than from the 1960 crop. Processors of flakes, granules, diced, and other forms of dehydrated products took 9.3 million hundredweight from the 1962 crop, 9 percent more than from 1961 crop but 8 percent less than from the 1960 crop. Idaho has had the fastest growth in potato processing and in 1960 provided about 60 percent of the supply of dehydrated and frozen potatoes. Other leading areas are Washington, Maine, and the Red River Valley in North Dakota and Minnesota.

The growing consumer acceptance of factory-processed potato products appears to have arrested or reversed the long-time (40 years or more) downward trend in the per capita potato consumption. Consumption rose from an annual average of 106.9 pounds per person in 1957-59

to 108.8 pounds in 1962. Most of the increase was in use of frozen and dehydrated products.

Wholesaling processed fruits and vegetables.--Retailers increased their use of direct buying of processed as well as fresh fruits and vegetables. Some retail chains contract with processors to have fruits and vegetables packed under the retailers' brands. According to the Census of Manufactures, nearly 80 percent of the dollar volume of manufacturers' sales of canned and dried fruits and vegetables was made to wholesalers in 1939, 15 percent to retailers, and 1 percent to industrial users. Exact data are not available from the Census for 1958, but available data do show that, by that year, sales to wholesalers made up a much smaller proportion than in 1939, and sales to retail outlets and to industrial and institutional buyers -- either directly or through manufacturers' sales branches -- had risen substantially.

Sales to wholesalers were 66 percent of manufacturers' sales of frozen fruits and vegetables in 1939. By 1958, these sales had dropped to nearly half of the total. Sales to retail stores were only 15 percent of manufacturers' sales in 1939 compared with about one-third in 1958.

The distribution of merchant wholesaler sales of canned and frozen fruits and vegetables shifted from industrial and wholesale outlets to retail outlets between 1948 and 1958 (table 11). Sales of canned fruits and vegetables to retailers rose from 45 percent to 69 percent of total merchant wholesaler sales during the 1948-1958 period. Sales of frozen fruits and vegetables rose from 54 to 60 percent. The proportion sold to export outlets declined sharply. These declines might be indicative only for the years for which data were available, however, rather than of trends during the period.

Table 11.--Distribution of merchant wholesaler sales, 1948 and 1958 ^{1/}

Sales outlet	Canned fruits and vegetables		Frozen fruits and vegetables	
	1948	1958	1948	1958
	Percent	Percent	Percent	Percent
Industrial and commercial uses	11.3	7.2	17.4	15.3
Retailers	45.5	68.7	54.4	60.0
Wholesale organizations	29.7	20.3	23.8	23.0
Household consumers	.6	.8	1.3	.5
Export	12.9	3.0	3.1	1.2

^{1/} Does not include sales of brokers and agents.

Census of Business, 1948, Vol. IV, 401 - 407 and 1958, Vol. II, 4 - 2 to 4 - 4.

The Outlook for Marketing Fruits and Vegetables

Impact of population changes.--The total volume of fruits and vegetables marketed will increase in the years ahead, mainly because of population growth. Continued movement of families from farm to nonfarm homes also will add to total demand for commercially produced fruits and vegetables, since many farm families produce part or all of the fruits and vegetables they consume. Changes in the geographical distribution of the population may affect the production and marketing of these products. Population is expected to expand greatly in or near some of the areas best adapted for fruit and vegetable production -- the Pacific Coast States and Florida. Increased demand for land for non-agricultural uses already has curtailed production in parts of these States. Competition for land and water will increase. Population growth in and near the producing areas will tend to reduce transportation costs for these products.

The effect of income on demand.--The expected rise in per capita dis-

posable income may increase the demand for many fruit and vegetable products, depending on relative prices of all foods and the supply response. However, per capita consumption is likely to respond only slightly to increases in income over the next few years. Gains in income will affect consumption of some fruits and vegetables more than others. Generally the largest increases arising from income growth will be in the consumption of processed products.

These conclusions are based on the results of 2 independent calculations of consumption-income relations, one using time series data and the other household budget data. Daly, using time series data and a trend variable to allow for changes in taste, estimated that coefficients of income elasticity for vegetable products ranged from -0.1 for white potatoes to 0.4 for frozen vegetables and fresh leafy, green and yellow vegetables, and tomatoes. ^{12/} Elasticities for fruits ranged from 0.0 for dried fruits to 0.8 for processed citrus products. For fresh citrus fruits, the elasticity was 0.6, and for fresh apples, 0.2. Waldorf, using data from the Household

^{12/} Daly, Rex F., A Profile of Agriculture Projected to 1968, unpublished notes and materials for discussion at the Great Plains and Western Outlook Conference, July 22, 1963.

Food Consumption Survey conducted by the USDA in 1955 found that income elasticities were higher for processed than for fresh fruits and vegetables and of the processed products elasticities were highest for frozen products. ^{13/}

Thus, income elasticities indicate that the shift in consumption during the last decade from fresh to processed products will continue and that the largest increases will be in the consumption of frozen products. This shift, however, will also be affected by changes in prices of processed fruits and vegetables relative to those of the fresh products. Per capita consumption of all fruits and vegetables may not rise significantly from levels of the past decade.

Increased volume of processing.-- Several factors in addition to the growing population and rising income per capita are expected to increase the volume of fruits and vegetables processed. Among these factors are: (1) A burgeoning demand for convenience foods, (2) development of new and improved products, and (3) use of new technologies.

Increased employment of women outside the home and their desire to devote more time to activities outside the kitchen (coupled with rising incomes) have accounted for much of the increased use of convenience foods. These factors will continue to boost demand for these products.

The development of new products -- frozen orange juice concentrate, for example -- and improvements in the quality of products have contributed greatly to the increase in processing. Fruit and vegetable processing firms are spending large sums on developing new and improved products. One may expect that these efforts will result in more processing.

Several new methods of processing fruits and vegetables are now in experimental stages of development or have been used commercially only for proc-

essing small volumes of high-value products. These new methods may be much more widely used in the future. Dehydrofreezing, a promising new method of freezing, has been used commercially to process fruits and vegetables on a limited scale. As the name implies, much of the water is removed before a product is frozen, thus reducing its bulk and weight. Costs of packaging and shipping are smaller for these products than for conventionally frozen products, but dehydration adds to processing costs. A growing volume of fruits and vegetables may be processed by freeze-drying, a method by which moisture is largely removed from conventionally frozen products. The final product is a dried, not a frozen, product. It may be shipped and stored without refrigeration and is lightweight. Freeze-dried foods retain more of the flavor of the original product than do most foods dried by heat. Freeze-drying, however, is more expensive than other processing methods. At present, its greatest potential for fruit processing seems to be in freeze-drying berries and other fruits for use by bakeries and other food manufacturers. Vegetables now are freeze-dried for use in soups and other products, and the volume processed in this way may grow. The foam-mat and vacuum-puff methods of drying show promise for making instant mixes and for making dried granules and flakes that can be reconstituted. Aseptic canning, a new technique, produces higher quality canned fruits and vegetables than are now available. Research is continuing to improve various methods of processing.

Further growth in direct buying.-- Retail firms probably will increase their direct purchases from shipping point dealers. The number of retail food chains large enough to engage in direct buying is likely to increase because of mergers and the opening of new stores. Further, chains now doing some direct-buying may increase this buying. Direct buying is not expected to account for more than 60 percent of the total volume of fresh fruits and vegetables marketed in the

^{13/} Waldorf, William H., unpublished estimates.

foreseeable future. Three groups of customers depending heavily on city wholesalers, will probably keep the wholesalers market share from decreasing to less than 40 percent of total marketings. These groups are: (1) Restaurants, hotels,

and institutional buyers, few of which are large enough to buy directly from shipping point dealers; (2) unaffiliated independent grocery stores; and (3) chain-stores that buy specialty items, pre-packaged items, and fill-in supplies from local wholesalers.

THE ROLE OF RAILROADS IN HAULING FARM PRODUCTS ^{1/}

Transportation is an essential link joining the farmer with the distributor and, in turn, with the consumer. With expanding population, increasing production, and shifting production areas and markets, the transportation requirements of the Nation are changing. These changes are bringing significant changes in the roles of the various modes of transportation in delivering farm products.

Total Intercity Freight Traffic

Solid statistics are not available to measure the trend of farm-originated freight tonnage moved by highways, waterways, and airways; but acceptable estimates have been made of total ton-miles of all intercity freight traffic moved by each type of carrier.

Except for sharp changes during periods of general business fluctuations, total freight traffic moved by the railroads has not shown any clear-cut trends since 1947, whereas freight moved over the Nation's highways, waterways, and airways, as well as through pipelines, has increased steadily (table 12). Railroad traffic in 1962 was 10 percent lower than in 1947 and 20 percent lower than in 1944, but there have been several good years since World War II. Intercity highway traffic in 1962 was more than 3 times the volume in 1947. Waterway and pipeline volumes also increased but at a lower rate. Air freight rose during 1947-62, but the aggregate amount is still relatively small.

The share of total intercity traffic moving by rail has declined steadily. In 1947 it was 65 percent; in 1962 it was 43 percent. Highway traffic gained steadily from 10 percent of the total in 1947 to 24 percent in 1962. Inland waterways and pipelines have maintained their relative positions during the last few years. In the recent past each has hauled about one-sixth of all intercity

traffic. In terms of the share of total traffic, air freight is insignificant.

The statistics in table 12 highlight the fact that in terms of aggregate ton-miles, railroads have about held their own since 1950. From the railroads' point of view, this stability since 1950 is very unsatisfactory. Technological improvements since World War II have placed railroads in a position to haul much more traffic than they are attracting. Diesel power rather than steam enables them to match motive power to the needs of each train and operate longer, faster trains with more freight in each train. Centralized traffic control permits the safer operations of more trains on a given length of track within given time periods. Automated switching speeds the movement of cars through classification yards. Larger cars, and those designed for particular types of traffic, give railroads more freight in each loaded car. For these and many other reasons, they would like much more traffic than they have.

To get additional traffic, railroads want greater opportunity to reduce their freight rates to reflect cost-saving improvements and to meet the competition of highway, waterway, and pipeline carriers. Their rate-making flexibility is limited now because all their rates are subject to review by the Interstate Commerce Commission or by State regulatory agencies.

Agriculture's Importance to the Railroads

Farm product traffic is important to the railroads. In 1961 it was the source of 14 percent of all their carload freight and 17 percent of their revenues (tables 13 and 14). Perhaps even more important to them is the fact that agricultural traffic is one of their best hedges against business depression.

In recent times when industrial production and nonfarm rail traffic have

^{1/} By Ivon W. Ulrey, industry economist, Marketing Economics Division, Economic Research Service, USDA.

Table 12.--Estimated ton-miles of intercity freight traffic, public and private,
by transport agency, 1939-62

Year	Railway	Motor vehicles	Inland waterways	Pipelines	Airways	Total <u>1/</u>
	<u>Billions</u>	<u>Billions</u>	<u>Billions</u>	<u>Billions</u>	<u>Billions</u>	<u>Billions</u>
1939	339	53	96	56	0.012	544
1940	379	62	118	59	.014	619
1941	482	81	140	68	.019	772
1942	645	60	149	75	.034	929
1943	735	57	142	98	.053	1,031
1944	747	58	150	133	.071	1,088
1945	691	67	143	127	.091	1,027
1946	602	82	124	96	.093	904
1947	665	102	147	105	.158	1,019
1948	647	116	162	120	.223	1,045
1949	535	127	139	115	.235	916
1950	597	173	163	129	.318	1,063
1951	655	188	182	152	.379	1,178
1952	623	195	168	158	.415	1,144
1953	614	217	202	170	.413	1,204
1954	557	213	174	179	.397	1,123
1955	631	223	217	203	.481	1,275
1956	656	249	220	230	.563	1,355
1957	626	254	232	223	.572	1,335
1958	559	256	189	211	.579	1,215
1959	582	289	197	227	.739	1,295
1960	579	298	220	229	.778	1,326
1961	570	305	210	233	.895	1,318
1962	600	332	220	242	1.050	1,395

1/ Totals do not always add because of rounding.

Annual reports of the Interstate Commerce Commission.

dropped sharply, farm product traffic has declined moderately. For example, in the depressed year 1949, nonfarm product traffic was 21 percent below 1947 (table 13). Farm product traffic was down only 12 percent. Likewise, in 1961 when nonfarm product traffic was 23 percent below the 1947 level, farm product traffic was down only 8 percent.

In terms of revenues collected by the railroads, nonfarm traffic has been more remunerative than farm traffic. In 1961, rail revenue from nonfarm traffic was 46 percent above 1947, whereas rail revenue from farm traffic was only 2 percent

greater (table 14). Rail revenue from hauling farm products constituted 16-19 percent of total rail freight revenue in 1947-61, except for 1947 when it was 23 percent and 1949 when it was 20 percent. These figures show that farm products are responsible for a substantial share of the railroad business.

Railroad Transportation of Unmanufactured Farm Products

In 1961 the Nation's railroads picked up for delivery more than 163 million tons of unmanufactured farm products

Table 13.--Rail freight tonnage, farm output, and industrial production, 1947-61

Year	Farm product traffic 1/		Farm output 2/	All carload traffic except farm products 3/		Industrial production 4/
	Actual	Index		Actual	Index	
	1,000 tons	1947=100		1,000 tons	1947=100	
1947	177,884	100	100	1,337,101	100	100
1948	162,041	91	109	1,326,571	99	104
1949	155,667	88	107	1,058,244	79	99
1950	143,496	81	106	1,199,813	90	114
1951	155,172	87	110	1,311,851	98	124
1952	153,018	86	114	1,220,276	91	128
1953	144,905	81	115	1,231,141	92	139
1954	144,864	81	115	1,072,141	80	131
1955	146,951	83	119	1,242,395	93	147
1956	151,291	85	120	1,289,646	96	153
1957	148,692	84	117	1,226,192	92	154
1958	156,641	88	126	1,029,310	77	142
1959	155,526	87	127	1,072,752	80	161
1960	159,813	90	131	1,077,627	81	166
1961	163,160	92	132	1,027,994	77	167

1/ Freight Commodity Statistics, Interstate Commerce Commission. Does not include manufactured and canned items.

2/ Gross production of livestock and crops.

3/ Freight Commodity Statistics, Interstate Commerce Commission. Includes all carload freight traffic except categories entitled, "Products of Agriculture" and "Animals and Animal Products."

4/ Federal Reserve Board index of quantity output.

(table 13). This figure does not include processed items such as animal feed, and manufactured items such as canned goods. Neither does it include farm supplies such as machinery and fertilizer. Assuming that each loaded rail freight car carried 40 tons of farm products, 163 million tons amounts to almost 11,000 carloads each day of the year or more than 160 trainloads of 70 cars each day.

Aggregate rail traffic in unmanufactured farm products has been notably steady since the rapid downward adjustment immediately after World War II. Rail tonnage of farm products moved in 1961 was 92 percent of the 1947 total and the largest amount in any year since 1947. The low points -- 81 percent of the 1947 total -- were in 1950, 1953, and 1954.

Despite this stability in aggregate volumes hauled, railroads do not have a particularly good record in relation to the growth of farm output. Farm output has increased steadily since 1947. Output in 1961 was 32 percent above 1947 (table 13). At the same time, rail traffic in farm products in 1961 was about 8 percent below 1947.

Farm product traffic declined significantly, but rail freight traffic in all nonfarm products declined even more. Loss of nonfarm traffic has been due, in substantial part, to the decreased volume of coal hauled, and to the shift of petroleum to pipelines. Nonfarm traffic in 1961 was 23 percent below 1947, and the trend is downward rather than stable as in the case of farm product traffic (table

Table 14.--Rail freight revenue, cash receipts from farm marketings, and gross national product, 1947-61

Year	Revenue from		Cash	Revenue from all		Gross	
	farm products		receipts	carload traffic, ex-			national
			from farm:	cept farm products				product
	Actual	Index	marketings:	Actual	Index		
	1,000			1,000			
	dollars	1947=100	1947=100	dollars	1947=100	1947=100	
1947	1,356,579	100	100	4,530,211	100	100	
1948	1,416,385	104	102	6,411,411	142	111	
1949	1,424,334	105	94	5,561,376	123	110	
1950	1,330,432	98	96	6,462,285	143	121	
1951	1,442,019	106	111	7,231,385	160	140	
1952	1,526,498	113	110	7,308,198	161	148	
1953	1,491,930	110	105	7,539,413	166	156	
1954	1,441,952	106	101	6,448,336	142	155	
1955	1,427,894	105	100	7,229,582	160	170	
1956	1,486,617	110	103	7,618,293	168	179	
1957	1,478,948	109	101	7,640,719	169	189	
1958	1,532,884	113	113	6,724,311	148	190	
1959	1,469,630	108	113	7,050,432	156	206	
1960	1,421,622	105	115	6,827,173	151	215	
1961	1,389,341	102	119	6,599,527	146	221	

13). Furthermore, industrial production increased 67 percent over the 15-year period ended in 1961.

Rail Traffic Trends in Grains, Feeds, and Canned Goods

Railroads continue to haul large quantities of some farm products and revenues received for hauling these products continue to rise in most instances. Over the last 15 years, rail tonnage of 12 items, including grains, grain products, animal feeds, cotton, and canned goods, has accounted for about 10 percent of all rail traffic and revenues (table 15). In fact, the share of the railroads' business derived from hauling these commodities rose to about 13 percent in 1961. Wheat and corn, by far the largest moving grains, have regularly made up about 4 percent of all rail business. Animal feeds, canned goods, sugar beets, and wheat flour also have moved in heavy volume.

In 1961, 9 of the 12 items in table 15 moved in volume equal to or greater than in 1947. Only 3 declined. Those that declined were wheat flour, mill products (cereal), barley and rye. Revenues for moving these commodities were higher in every case in 1961 than in 1947, except for mill products (table 16).

Some items move longer average distances now than in the earlier years, but not all. Average haul per ton of cotton was 679 miles in 1961. In 1947 the haul was 592 miles. For sorghum grains, it was 437 miles in 1961 and 524 miles in 1947. In 1961, wheat moved 336 miles and wheat flour 610 miles. These distances have held notably constant. Since rail freight rates for moving grain are designed to hold that traffic to the rails even after it has been converted to flour, cereal, or other products, the total distance wheat and wheat products move, on the average, approaches 950 miles. It is this long haul that makes wheat traffic

Table 15.--Railroad traffic volume of 12 semiperishable and processed classes of farm products moved in large volumes, selected years

Farm products	1947	1950	1955	1960	1961
	1,000	1,000	1,000	1,000	1,000
	tons	tons	tons	tons	tons
Wheat	43,058	30,532	33,188	40,360	43,174
Corn	21,530	17,634	19,828	21,590	25,108
Animal and poultry feed	12,503	15,788	17,184	15,800	15,996
Food products in cans and packages (not frozen)	12,029	10,244	11,117	12,460	13,155
Sugar beets	8,502	7,812	7,376	9,888	10,335
Wheat flour	13,010	9,066	9,007	10,099	10,170
Soybeans	4,386	5,370	7,509	8,940	8,661
Sorghum grains	2,245	4,459	3,873	9,638	7,277
Soybean oil, cake, and meal	3,073	3,745	4,270	6,126	6,338
Mill products, cereal, etc.	9,878	6,663	5,701	5,860	5,875
Barley and rye	6,257	5,176	6,860	6,485	5,860
Cotton in bales	3,863	4,662	3,762	4,236	4,077
Total	140,334	121,151	129,675	151,482	156,026
Total carload traffic	1,514,985	1,343,309	1,389,346	1,237,440	1,191,154
	Percent	Percent	Percent	Percent	Percent
Volume of 12 products as percentage of total carload traffic	9.3	9.0	9.3	12.2	13.1

Freight Commodity Statistics, Interstate Commerce Commission

particularly attractive. The combination of hauls gives the railroads virtually the total transportation from country rail loading points near farms to the unloading of flour and cereals in destination cities near consumption points. Lowered rates in recent years have made the railroads even more attractive to wheat shippers.

Soybeans, soybean oil, soybean cake, and meal moved shorter distances. These together averaged 550 miles in 1961. Sugar beets, which normally move quite short distances, had an average haul of 69 miles in 1961, even fewer than in 1947.

Larger cars and lower rates offered shippers for heavier loads caused the average load per car of most commodities to rise. For example, the average load for wheat was 52 tons in 1947, 56 tons in 1961. In 1947, the average carload of soybeans was 49 tons; in 1961, it was 54 tons.

Rail Traffic Trends in 12 Perishable Farm Products

In contrast to the uptrends in rail volume of grain and grain products, rail traffic in

Table 16.--Railroad revenue of 12 semiperishable and processed classes of farm products moved in large volumes, selected years

Farm products	1947	1950	1955	1960	1961
	Thousand dollars	Thousand dollars	Thousand dollars	Thousand dollars	Thousand dollars
Wheat	212,285	178,933	204,017	264,232	268,327
Food products in cans and packages (not frozen)	154,888	167,736	188,583	217,121	227,164
Corn	95,294	95,274	107,668	105,631	131,485
Animal and poultry feed	51,197	79,549	88,383	85,339	85,513
Wheat flour	66,034	62,155	66,728	81,110	79,399
Cotton in bales	39,068	57,840	55,682	56,773	55,615
Sorghum grains	14,213	29,335	21,490	57,819	42,007
Barley and rye	31,002	30,424	44,986	48,066	38,393
Mill products NOS	37,464	32,206	30,545	34,451	33,499
Soybeans	13,902	22,242	37,570	35,499	30,944
Soybean oil, cake, and meal	12,690	19,622	26,321	29,887	29,448
Sugar beets	7,516	8,115	9,613	13,302	14,585
Total	735,553	783,431	881,586	1,029,230	1,036,379
Total freight revenue	5,886,790	7,792,717	8,657,476	8,248,795	7,988,868
Revenue of 12 products as percentage of total freight revenue	12.5	10.1	10.2	12.5	13.0

Freight Commodity Statistics, Interstate Commerce Commission

highly perishable farm products has declined sharply during the last 15 years, in some cases almost to the vanishing point. For the 12 commodity classes in table 17, rail tonnage in 1961 was only 43 percent of the tonnage in 1947. The best showing was for tomatoes, which held in 1961 to 77 percent of the 1947 volume. Eggs and fresh berries almost disappeared from the rails. (However, the railroads have largely offset this loss of berries through gains in frozen berry and fruit traffic.) Volumes for 8 of the 12 classes of commodities declined by 50 percent or more in 1947-61.

Revenues collected by the railroads for hauling this traffic also declined, but by a somewhat smaller percentage, 32 percent. For 5 commodity classes, revenues in 1961 were 50 percent or less of the amounts collected in 1947. These 5 items were oranges and grapefruit, fresh apples, watermelons, eggs, and fresh berries (table 18). Part of the decline may be traced to the railroads lowering their charges in an effort to retain traffic. For example, ton-mile charges for moving potatoes and oranges and grapefruit declined from 1955 to 1961. Other charges held steady or increased only moderately.

Table 17.--Railroad traffic volume of 12 perishable farm products, selected years

Farm products	1947	1950	1955	1960	1961
	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons
Meats, fresh NOS, cooked, cured, dried, and smoked and packing- house products	5,933	5,081	4,618	3,639	3,676
Potatoes, other than sweet	5,925	4,376	3,711	3,400	3,385
Cattle and calves	5,156	3,083	2,888	1,760	1,535
Oranges and grapefruit	3,182	1,473	1,321	826	761
Swine	2,070	1,487	1,043	534	459
Sheep and goats	891	607	519	359	320
Tomatoes	332	278	283	198	256
Apples, fresh	944	672	457	286	228
Poultry, live and dressed	367	169	84	135	199
Watermelons	401	284	334	100	78
Eggs	424	49	11	3	4
Berries, fresh (not frozen)	9	3	1	1	1
Total	25,634	17,562	15,270	11,241	10,902
Total carload traffic	1,514,985	1,343,309	1,389,346	1,237,440	1,191,154
	Percent	Percent	Percent	Percent	Percent
Volume of 12 products as percentage of total carload traffic	1.7	1.3	1.1	0.9	0.9

Freight Commodity Statistics, Interstate Commerce Commission

Ton-mile charges for fresh apples and watermelons were comparable to 1955, while those for tomatoes were about the same in 1961 as in 1947, declining after reaching a peak in 1955. The decline in revenue despite the railroads' efforts reflects the importance of the service advantage held by highway carriers.

The relatively favorable charges applicable to these perishable commodities as compared to earlier years result partly from an increase in the average distance

each ton is hauled. Rail freight rates tend to rise at a decreasing rate as distances increase. Among examples of changes in average hauls is that for fresh apples, which increased from 1,658 miles in 1947 to 2,178 in 1961. In 1947 watermelons moved an average of 925 miles; in 1961, the average distance was 1,177 miles. The average haul per ton for potatoes increased from 913 miles to 1,263 in 1961. The average haul for tomatoes held steady at around 1,600 miles.

Table 18.--Rail revenue of 12 classes of perishable farm products, selected years

Farm products	1947	1950	1955	1960	1961
	Thousand dollars	Thousand dollars	Thousand dollars	Thousand dollars	Thousand dollars
Meats, fresh NOS, cooked, cured, dried, and smoked and packinghouse products	113,266	131,898	138,017	112,160	106,087
Potatoes, other than sweet	77,013	75,663	76,648	71,640	69,579
Cattle and calves	52,778	44,076	51,812	37,885	32,445
Oranges and grapefruit	75,802	45,803	41,114	27,960	25,240
Swine	19,619	22,647	23,346	13,795	11,985
Sheep and goats	9,628	8,851	9,582	8,290	7,546
Tomatoes	12,409	11,203	11,548	10,248	9,304
Apples, fresh (not frozen)	22,768	20,250	15,107	10,750	8,746
Poultry, live and dressed	9,442	6,095	2,976	3,782	4,926
Watermelons	7,055	7,090	8,855	3,898	2,912
Eggs	10,585	1,471	369	100	83
Berries, fresh (not frozen)	241	87	50	39	18
Total	410,606	375,134	379,424	300,547	278,871
Total freight revenue	6,886,790	7,792,717	8,657,476	8,248,795	7,988,868
	Percent	Percent	Percent	Percent	Percent
Revenue of 12 products as percentage of total freight revenue	6.0	4.8	4.4	3.6	3.5

Freight Commodity Statistics, Interstate Commerce Commission

The index of railroad freight rates for farm products, published by the Economic Research Service, reflects the effects of the factors described (table 5, p.13). The combined index for several farm products declined in 1962 for the fourth consecutive year. The index dropped 2 points from 1958 to 1959, 2 points from 1959 to 1960, and 1 point in 1961 and 1962. Prior to 1958, the index was rising, particularly after World War II. Although the most influential force on the combined index

was the decline in wheat rates, declines also occurred in livestock, meats, fruits, and vegetables.

Competition for the Railroads

Railroads have not kept pace with other carriers in acquiring the potential new traffic generated by rising agricultural output. It is virtually impossible to measure the potential agricultural traffic

lost by the railroads to other carriers. Motortrucks and barges -- significant haulers of farm products -- are exempt from Federal regulation governing charges and routing for interstate movements. At the same time most States permit for-hire motortrucks to carry farm commodities intrastate with a considerable degree of economic freedom. Thus, carriers operating in these areas do not submit the transportation activity reports that would provide the statistical data needed for such a measurement.

USDA's transportation research findings do show, however, that motortrucks move large quantities of perishable and semiperishable farm products. ^{2/} The commodity groupings most commonly trucked in large volume are grain, livestock, milk and cream, vegetables, fruits and berries, poultry and eggs, cotton and wool, and hay and forage. Barges also move quantities of grain over inland waterways at very competitive rates.

Total tonnage of grain moved by rail has increased in recent years. This reflects increased grain production and the railroads' power to hold longhaul traffic in areas where truckers do not have an opportunity to get payloads both outbound and homebound, thus making grain movements one-half of roundtrip operations. It also reflects the effect of rate reductions by railroads. In addition, water carriers, even in combination with motortrucks, cannot serve all origins and destinations that rails can.

The average distances railroads haul grain have increased, but this statistical increase has been partly the effect of the loss of short-haul traffic and partly the effect of heavier movements from inland grain-producing States to export points.

Motortrucks haul significant volumes of grain. This grain often moves as one-half of a roundtrip payload, sometimes at rates more attractive to shippers than rail rates. The service advantages offered by the truckers cannot be matched by the railroads or water carriers. The end result is that farmers indirectly benefit from the flexibility of the trucks by saving expenses of hauling their grain to elevators or other concentration points. Buyers may also benefit by having grain delivered to them in small lots and by having to pay no more for delivered grain than for grain accepted at the rail unloading point.

The service advantages in transporting grain by truck are even more important in moving perishable farm products such as fruits, berries, vegetables, dairy products, and poultry. Motortruckers can stop at two or three points to pick up perishables destined for a distant market, and delivery can be made to 2 or more points. This service cannot be equalled by the railroads; those who want it are often willing to pay motortruckers premium rates for the service. Also, truck transportation often is faster and more reliable than movement by rail.

Summary

The volume of farm products hauled by the Nation's railroads has held about constant since 1947. Revenues for hauling farm products generally increased until about 5 years ago. Since then they have declined. This record of stable traffic volume and declining revenues in the last 5 years results from many causes. The chief depressing factor on rail revenues has been the sharp reductions in rail freight rates where competition from truck and barge transportation has been keen.

^{2/} Mildred R. DeWolfe, For-Hire Motor Carriers Hauling Exempt Agricultural Commodities . . . Nature and Extent of Operations, USDA, Mktg. Res. Rpt. 585, Jan 1963.

Proposed Legislation

President Kennedy sent messages to Congress in 1962 and again in early 1963 urging the passage of bills to lessen competitive inequalities among carriers. The President expressed a preference for greater reliance on competition in transportation and less dependence on public regulation. A second choice would be an extension of regulation to those carriers now free from most economic regulation when hauling unmanufactured farm products or bulk products. Most spokesmen for agriculture, and all the railroads, strongly support bills introduced in both houses of Congress designed to provide greater rate-making latitude for railroads. These bills, if passed, would enable the railroads to haul unmanufactured farm products and all commodities customarily moving in bulk--unmarked and uncounted--at rates advantageous to them and not subject to jurisdiction of the Interstate Commerce Commission.

Opponents of these bills argue that with greater ratemaking freedom, railroads would be financially capable of reducing rates to levels that would draw traffic away from highway and waterway carriers. These opponents predict that after weakening competition, railroads, could--and would--raise rates again to levels that would reflect their monopoly position.

Advocates claim that the bills before Congress contain protective provisions designed to prohibit destructive warfare and monopoly actions and that the bills would make railroads subject to antitrust laws, just as the unregulated highway and waterway carriers and non-transportation businesses are subject to those laws now.

Southern Railway's Case for Using Jumbo Hopper Cars

Over a period of years the Southern Railway System helped to design and later purchased several hundred jumbo size aluminum hopper cars. These cars can haul about twice the payload of grain and other dry bulk items customarily hauled in conventional boxcars. These cars, representing an investment by Southern Railway of more than \$12 million, are a genuine technological breakthrough in the transportation of bulk grain.

When Southern received delivery of a substantial number of these cars, it sought permission from the Interstate Commerce Commission to use them to move grain from specific points along the Ohio and Mississippi Rivers to points on its lines in the Southern States. It proposed to charge freight rates as much as 60 percent below the rates for moving grain in conventional boxcars. The lower rates were to apply only to grain shipments involving 5 or more carloads. The rates were not to apply to shipments of grain products, as do the conventional boxcar rates. They were to be applicable only when such shipments were made on one bill of lading. They made no provision for the shipper to stop such grain in-transit for storage, milling, or other services.

Southern Railway originally planned to make the lower rates effective August 10, 1961. They did not go into effect until May 11, 1963, because of objections of competing carriers--particularly the barge lines--and others who fought Southern's use of them before the ICC and in the courts. At one point in the dispute between Southern and its opponents to decide whether or not the proposed rates were just and reasonable, a division composed of 3 commissioners of the ICC

1/ Prepared by Ivon W. Ulrey, industry economist, Marketing Economics Division, ERS.

ruled that Southern Railway might use the lower rates--a 60 percent reduction--as proposed for shipments of 5 carloads (450 tons) but that it might not use the even lower rates proposed for 10 carloads (900 tons) and 20 carloads (1,800 tons).

Opponents appealed this decision to the full 11-man Commission, which ruled that a 60 percent reduction was below a just and reasonable level. As a result, the Commission ordered the low rates cancelled but told Southern Railway that it might use rates 53.5 percent below standard boxcar rates, if it chose to do so. The Commission also said other railroads in the South could use the modified rates for standard boxcar service even though more cars would be needed to haul the 450-ton minimum shipments. At the same time, the Commission notified the railroads that it would investigate the lawfulness of the single-car rates published by the Southern Railway after the multiple-car rates had become effective. These rates for single cars, effective for movements in jumbo cars (90 tons), are 120 percent of the 5-car (450 tons) rates. 2/

The Southern Railway was unwilling to accept the ICC decision and appealed to a Federal district court to enjoin the Commission's order requiring the cancellation of the published lower multiple-car rates. The court temporarily enjoined the Commission's order subject to a complete hearing of the case before a designated 3-judge court. Until this court acts, the lower rates will continue in effect.

Opponents of the lower rates petitioned that the investigation of single-car rates be broadened to include the lawfulness of rates on other traffic, including rates on flour and other grain products. Upon the Southern Railway and other railroads' responses that they would be willing to be bound by the final disposition of issues before the Federal district court, the ICC denied the petitions and issued orders

holding in abeyance any Commission consideration of all issues raised in connection with the case.

A final decision is vitally important to the railroads inasmuch as the volume of grain moving from the surplus producing areas north of the Ohio and west of the Mississippi Rivers into the Southeastern States has been increasing rapidly, with more and more grain reaching those States by barge and motor truck. This is true even though the aggregate amount of grain hauled by the railroads has increased in the last 5 years. In 1955 the railroads moved approximately 2 million tons; by 1960 this movement had grown to almost 2 1/2 million tons according to testimony before the ICC.

In terms of the percentage share of total grain moving to Southeastern States, however, the railroads' share declined from about 55 percent in 1955 to a little over 20 percent in 1960. During the same period, grain moving by highway increased from about 20 percent of the total to over 55 percent. The share moved by waterway remained relatively stable, but the aggregate amount more than doubled from 1955 to 1960.

This transportation issue is important to agricultural interests because freight rate reductions tend to open new and larger markets for producers in surplus production areas. This will be particularly true in this case because of the very sharp rate reduction involved. Reduced transportation charges also tend to reduce prices to grain users. Since the volume of grain moving into the Southeastern States by highway and waterway, often at rates lower than those charged by railroads, has increased in recent years, substantial grain price adjustments have already taken place.

Railroad Freight Car Shortages

Year after year at grain harvest time, the Nation's railroads are short of equipment. Shippers of farm products, as well

2/ Other railroads in the South had instituted competitive rates for single-car shipments in either boxcars or covered hopper cars. These rates were already under investigation by the Commission.

as nonfarm products, become impatient and criticize the carriers for their failure to meet peak seasonal demands. Invariably, the carriers respond to these criticisms by pointing to their relatively low level of earnings and explaining that they cannot afford to buy and hold cars in reserve most months of the year to meet peak demands for a few weeks or months. Also, they emphasize that shippers who anticipate car shortages often inflate their demands for cars in hopes that those made available to them will meet their needs.

This year the car shortage is likely to be more critical than ever, particularly for movements from interior grain storage points to East Coast and Gulf ports. A series of unexpected and unpredictable events have created the situation. In addition to the fact that general business is good and shippers of nonfarm products are placing heavy demands on the railroads for equipment, the bumper crops of wheat, corn, and soybeans have led to unusual demands for box and hopper cars. Good business and normal farm crops would have been enough to create shortages, but the addition of several new factors will aggravate them. One is the anticipated export of some 800 million bushels of wheat to countries other than USSR or its satellites, compared with about 640 million last year. The major factor, however, is likely to be the impact on the railroads of the proposed sale of perhaps 200 million bushels of wheat to

Russia. If this sale is consummated and the wheat is moved from warehouses to ports by the railroads--and most of it would be--it would amount to perhaps 150,000 carloads (over 2,000 trains.)

The combination of demands for cars is particularly embarrassing to the railroads because their car fleets have not been expanded in recent years; in early fall 1963 approximately 8 percent of the boxcars in existence were in unusable condition. Several railroads have taken steps to minimize their shortages by stepping up their rate of car repairs; still, others have placed orders for new ones. As of September 1, 1963, 20,749 boxcars were on order, compared with 12,429 a year earlier.

If the existing car fleet could be used as efficiently as possible, there would still be a severe shortage; efficient usage has not been accomplished this year because loaded cars moving from storage to export points often have been delayed at ports awaiting the arrival of ships before unloading. These delays seem greater this year because ships appear to be in short supply. The railroads' coordinating agency, the Association of American Railroads and the ICC have taken steps to make the best possible use of cars by issuing embargoes on grain movements to points where backlogs of cars await unloading. These embargoes help, but they cannot notably reduce the severity of the car shortage in relation to the overall demand.

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2. "Changes in the Market Structure of the Breakfast Foods Industry," by Walter G. Heid, Jr., U. S. Dept. Agr., Econ. Res. Ser., MRR-623, Aug. 1963.
3. "Changing Shipping Patterns on the St. Lawrence Seaway--With Emphasis on United States Grain Exports," U. S. Dept. Agr., Econ. Res. Ser., MRR-621, Aug. 1963. (This is a staff report prepared under the direction of Nicholas M. Thuroczy.)
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7. "Developments in Marketing Spreads for Agricultural Products in 1962," [Reprinted from Hearings Before the Subcommittee of the Committee on Appropriations, United States House of Representatives, Eighty-Eighth Congress, First Session, U. S. Dept. Agr., Econ. Res. Ser., ERS-14 (1963) Aug. 1963.
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13. "Sweeteners Used by the Baking Industry--Their Competitive Position in the United States," by Roy A. Ballinger and L. C. Larkin, U. S. Dept. Agr., Econ. Res. Ser., AER-32, May 1963.
14. "The Future for Cotton in Laminated Plastics," by Richard Hall, U. S. Dept. Agr., Econ. Res. Rpt., MRR-619, Aug. 1963.

Publications issued by State Agricultural Experiment
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: The Marketing and Transportation Situation is published in February, :
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Table 19.--Farm food products: Retail cost and farm value, July-September 1963, April-June 1963, July-September 1962, and 1957-59 average 1/

Product 2/	Retail unit	Retail cost						Net farm value 3/					
		July-Sept. 1963	Apr.-June 1963	July-Sept. 1962	1957-59 average	Percentage change from July-Sept. 1963		July-Sept. 1963	Apr.-June 1963	July-Sept. 1962	1957-59 average	Percentage change from July-Sept. 1963	
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Dollars	Dollars	Dollars	Dollars	Percent	Percent
Market basket		1,086.59	1,071.39	4/1,073.46	1,037.26	1	1	397.02	4/389.11	411.93	409.76	2	-4
Meat products		280.21	271.18	4/289.77	277.43	3	-3	141.37	129.54	156.47	150.65	9	-10
Dairy products		199.71	197.72	199.77	193.54	1	5/	87.20	4/84.74	87.10	87.76	3	5/
Poultry and eggs		84.33	82.42	83.73	92.03	2	1	50.25	48.19	51.45	56.02	4	-2
Bakery and cereal products													
All ingredients		172.77	172.87	4/170.93	159.22	5/	1	28.91	31.62	30.96	29.98	-9	-7
Grain	Average quantities	---	---	---	---	---	---	21.47	24.20	23.97	22.33	-11	-10
All fruits and vegetables	purchased	260.18	258.64	241.24	227.64	1	8	70.38	4/75.62	68.15	65.61	-7	3
Fresh fruits and vegetables	per urban	158.40	159.13	147.67	134.44	5/	7	52.50	4/57.83	48.73	46.58	-9	8
Fresh vegetables	wage-earner	71.79	72.24	70.44	68.70	-1	2	22.26	4/20.66	21.15	22.03	8	5
Processed fruits and vegetables	and clerical-worker	101.78	99.51	4/93.57	93.20	2	9	17.88	17.79	19.42	19.03	1	-8
Fats and oils ...	family in 1952	42.01	42.05	43.05	44.33	5/	-2	10.95	11.51	10.36	12.49	-5	6
Miscellaneous products		47.38	46.51	44.97	43.07	2	5	7.96	7.89	7.44	7.25	1	7
		Cents	Cents	Cents	Cents	Percent	Percent	Cents	Cents	Cents	Cents	Percent	Percent
Beef (Choice grade)	Pound	80.4	79.1	83.0	78.1	2	-3	46.7	43.3	52.6	49.7	8	-11
Lamb (Choice grade)	Pound	73.1	73.0	4/72.6	71.3	5/	1	37.5	39.0	38.3	39.8	-4	-2
Pork (retail cuts)	Pound	59.6	55.5	62.2	60.7	7	-4	32.0	28.3	34.1	32.5	13	-6
Butter	Pound	74.9	74.8	74.7	74.6	5/	5/	54.6	54.6	53.9	51.8	0	1
Cheese, American process	1/2 pound	36.4	36.2	36.1	32.8	1	1	14.6	14.6	14.1	14.2	0	4
Ice cream	1/2 gallon	85.3	84.6	85.4	87.5	1	5/	6/22.7	6/22.7	6/22.3	22.2	0	2
Milk, evaporated	14 1/2 ounce can	15.4	15.4	15.4	15.0	0	0	6.2	6.2	6.0	6.2	0	3
Milk, fluid	Quart	25.2	24.8	25.2	24.5	2	0	10.5	4/10.0	10.7	10.8	5	-2
Chickens, frying, ready-to-cook	Pound	39.8	40.0	40.4	44.9	-1	-1	19.6	20.4	21.4	24.4	-4	-8
Eggs	Dozen	51.2	49.0	50.0	54.5	4	2	34.3	31.4	33.9	36.1	9	1
Bread, white													
All ingredients	Pound	21.6	21.6	21.2	19.3	0	2	2.8	3.2	3.2	3.0	-12	-12
Wheat	Pound	---	---	---	---	---	---	2.3	2.6	2.6	2.4	-12	-12
Crackers, soda	Pound	31.0	31.0	31.1	29.1	0	5/	3.6	4.1	4.1	3.8	-12	-12
Corn flakes	12 ounces	28.4	28.4	27.5	24.7	0	3	2.6	2.5	2.5	2.9	4	4
Corn meal	Pound	14.5	14.5	14.1	12.9	0	3	2.6	2.5	2.5	2.9	4	4
Flour, white	5 pounds	57.1	57.2	57.2	54.8	5/	5/	18.0	20.7	20.6	18.9	-13	-13
Rolled oats	18 ounces	24.1	24.1	23.8	20.2	0	1	3.8	4.0	3.8	3.8	-5	0
Apples	Pound	20.7	18.7	19.6	15.1	11	6	6.0	4/6.9	5.5	4.6	-13	9
Grapefruit	Each	21.7	17.2	15.4	12.5	26	41	6.1	5.1	3.3	2.5	20	85
Lemons	Pound	22.2	23.4	19.6	18.9	-5	13	5.6	6.7	5.3	4.5	-16	6
Oranges	Dozen	91.4	96.4	79.8	66.8	-5	15	27.1	39.5	27.6	23.3	-31	-2
Beans, green	Pound	22.4	26.8	21.3	24.6	-16	5	10.1	10.3	9.5	10.6	-2	6
Cabbage	Pound	9.3	10.9	8.6	9.0	-15	8	2.6	2.4	2.3	2.4	8	13
Carrots	Pound	15.3	14.4	15.5	14.7	6	-1	3.7	4/2.7	3.9	3.7	37	-5
Celery	Pound	13.7	13.9	15.7	15.1	-1	-13	4.3	3.6	5.5	4.4	19	-22
Lettuce	Head	18.9	19.4	17.6	17.6	-3	7	5.0	6.2	5.0	5.9	-19	0
Onions	Pound	12.7	11.7	11.5	10.3	9	10	4.1	4.2	3.1	3.4	-2	32
Potatoes	10 pounds	69.9	65.0	69.6	61.0	8	5/	21.1	16.1	20.1	17.9	31	5
Sweetpotatoes	Pound	15.4	13.6	16.8	14.8	13	-8	4.8	4.6	4.8	4.8	4	0
Tomatoes	Pound	27.1	31.4	25.4	30.4	-14	7	9.1	4/9.5	7.8	10.7	-4	17
Orange juice, canned	46 ounce can	55.8	52.3	41.1	41.6	7	36	8.3	8.3	12.7	12.4	0	-35
Peaches, canned	No. 2-1/2 can	33.3	32.6	32.9	34.8	2	1	6.1	6.1	6.2	6.1	0	-2
Beans with pork, canned	16 ounce can	15.0	15.0	15.0	14.9	0	0	2.2	2.3	2.2	2.4	-4	0
Corn, canned	No. 303 can	19.3	19.2	20.0	18.1	1	-4	2.3	2.4	2.4	2.4	-4	-4
Peas, canned	No. 303 can	22.5	22.5	22.6	21.0	0	5/	2.9	2.9	2.9	3.1	0	0
Tomatoes, canned	No. 303 can	15.6	15.4	15.6	15.8	1	0	2.5	2.6	2.7	2.3	-4	-7
Orange juice concentrate, frozen	6 ounce can	32.5	30.3	19.9	23.7	7	63	9.2	8.7	7.6	8.4	6	21
Strawberries, frozen	10 ounces	27.6	27.5	27.1	26.4	5/	2	6.1	6.3	6.3	6.0	-3	-3
Beans, green, frozen	9 ounces	23.7	23.5	22.9	22.4	1	3	4.1	4.1	4.1	4.4	0	0
Peas, frozen	10 ounces	21.1	21.1	20.8	19.7	0	1	3.0	3.0	3.0	3.2	0	0
Dried beans (navy)	Pound	17.9	17.8	17.3	17.1	1	3	6.4	6.5	6.3	7.0	-2	2
Dried prunes	Pound	40.1	40.0	40.9	35.9	5/	-2	13.7	13.7	16.2	13.0	0	-15
Margarine, colored	Pound	27.5	27.3	28.0	29.1	1	-2	6.7	7.3	6.2	7.8	-8	8
Peanut butter	Pound	57.8	57.7	57.7	54.9	5/	5/	20.0	20.7	18.9	18.7	-3	6
Salad dressing	Pint	38.1	37.8	38.3	37.5	1	-1	6.4	6.7	6.0	6.9	-4	7
Vegetable shortening	3 pounds	83.0	84.1	87.6	93.6	-1	-5	24.0	26.0	22.6	28.2	-8	6
Corn sirup	24 ounces	28.8	28.5	27.4	25.7	1	5	3.3	3.1	2.8	3.0	6	18
Sugar	5 pounds	73.4	69.2	58.7	56.2	6	25	24.1	24.1	21.0	20.2	0	15

1/ The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

2/ Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

3/ Gross farm value adjusted to exclude imputed values of byproducts obtained in processing.

4/ Most farm value figures for July-September 1962 have been revised; figures in other columns revised as indicated.

5/ Less than 0.5 percent.

6/ Farm value of cream and milk only.

Table 20.--Farm food products: Farm-retail spread and farmer's share of the retail cost, July-September 1963, April-June 1963, July-September 1962, and 1957-59 average ^{1/}

Product 2/	Retail unit	Farm-retail spread 3/						Farmer's share			
		July- Sept. 1963	Apr.- June 1963	July- Sept. 1962 4/	1957-59 average	Percentage change		July- Sept. 1963	Apr.- June 1963	July- Sept. 1962	1957-59 average
						July-Sept. 1963	from-				
						Apr.- June 1963	July- Sept. 1962				
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent	Percent	Percent
Market basket		689.57	4/682.28	661.53	627.50	1	4	37	36	38	40
Meat products		138.84	141.64	133.30	126.78	-2	4	50	48	54	54
Dairy products		112.51	4/112.98	112.67	105.78	5/	5/	44	43	44	45
Poultry and eggs	Average quantities purchased	34.08	34.23	32.28	36.01	5/	6	60	58	61	61
Bakery and cereal products	per urban wage-earner and clerical-worker family in 1952	143.86	141.25	139.97	129.24	2	3	17	18	18	19
All ingredients		---	---	---	---	---	---	12	14	14	14
Grain											
All fruits and vegetables		189.80	4/183.02	173.09	162.03	4	10	27	29	28	29
Fresh fruits and vegetables:		105.90	4/101.30	98.94	87.86	5	7	33	36	33	35
Fresh vegetables		49.53	4/51.58	49.29	46.67	-4	5/	31	29	30	32
Processed fruits and vegetables		83.90	81.72	74.15	74.17	3	13	18	18	21	20
Fats and oils		31.06	30.54	32.69	31.84	2	-5	26	27	24	28
Miscellaneous products		39.42	38.62	37.53	35.82	2	5	17	17	17	17
		Cents	Cents	Cents	Cents	Percent	Percent	Percent	Percent	Percent	Percent
Beef (Choice grade)	Pound	33.7	35.8	30.4	28.4	-6	11	58	55	4/63	64
Lamb (Choice grade)	Pound	35.6	34.0	34.3	31.5	5	4	51	53	53	56
Pork (retail cuts)	Pound	27.6	27.2	28.1	28.2	1	-2	54	51	55	54
Butter	Pound	20.3	20.2	20.8	22.8	5/	-2	73	73	72	69
Cheese, American process	1/2 pound	21.8	21.6	22.0	18.6	1	-1	40	40	39	43
Ice cream	1/2 gallon	62.6	61.9	63.1	65.3	1	-1	27	27	26	25
Milk, evaporated	14 1/2 ounce can	9.2	9.2	9.4	8.8	0	-2	40	40	4/39	41
Milk, fluid	Quart	14.7	4/14.8	14.5	13.7	-1	1	42	4/40	42	44
Chickens, frying, ready-to-cook	Pound	20.2	19.6	19.0	20.5	3	6	49	51	4/53	54
Eggs	Dozen	16.9	17.6	16.1	18.4	-4	5	67	64	4/68	66
Bread, white											
All ingredients	Pound	18.8	18.4	18.0	16.3	2	4	13	15	15	16
Wheat	Pound	---	---	---	---	---	---	11	12	12	12
Crackers, soda	Pound	27.4	26.9	27.0	25.3	2	1	12	13	13	13
Corn flakes	12 ounces	25.8	25.9	25.0	21.8	5/	3	9	9	9	12
Corn meal	Pound	11.9	12.0	11.6	10.0	-1	3	18	17	18	22
Flour, white	5 pounds	39.1	36.5	36.6	35.9	7	7	32	36	36	34
Rolled oats	18 ounces	20.3	20.1	20.0	16.4	1	2	16	17	16	19
Apples	Pound	14.7	4/11.8	14.1	10.5	25	4	29	4/37	4/28	30
Grapefruit	Each	15.6	12.1	12.1	10.0	29	29	28	30	21	20
Lemons	Pound	16.6	16.7	14.3	14.4	-1	16	25	29	27	24
Oranges	Dozen	64.3	56.9	52.2	43.5	13	23	30	41	35	35
Beans, green	Pound	12.3	16.5	11.8	14.0	-25	4	45	38	45	43
Cabbage	Pound	6.7	8.5	6.3	6.6	-21	6	28	22	27	27
Carrots	Pound	11.6	4/11.7	11.6	11.0	-1	0	24	19	25	25
Celery	Pound	9.4	10.3	10.2	10.7	-9	-8	31	26	35	29
Lettuce	Head	13.9	13.2	12.6	11.7	5	10	26	32	28	34
Onions	Pound	8.6	7.5	8.4	6.9	15	2	32	36	27	33
Potatoes	10 pounds	48.8	48.9	49.5	43.1	5/	-1	30	25	4/29	29
Sweetpotatoes	Pound	10.6	9.0	12.0	10.0	18	-12	31	34	4/29	32
Tomatoes	Pound	18.0	4/21.9	17.6	19.7	-18	2	34	4/30	31	35
Orange juice, canned	46 ounce can	47.5	44.0	28.4	29.2	8	67	15	16	31	30
Peaches, canned	No. 2-1/2 can	27.2	26.5	26.7	28.7	3	2	18	19	19	18
Beans with pork, canned	16 ounce can	12.8	12.7	12.8	12.5	1	0	15	15	15	16
Corn, canned	No. 303 can	17.0	16.8	17.6	15.7	1	-3	12	12	12	13
Peas, canned	No. 303 can	19.6	19.6	19.7	17.9	0	-1	13	13	13	15
Tomatoes, canned	No. 303 can	13.1	12.8	12.9	13.5	2	2	16	17	17	15
Orange juice concentrate, frozen	6 ounce can	23.3	21.6	12.3	15.3	8	89	28	29	38	35
Strawberries, frozen	10 ounces	21.5	21.2	20.8	20.4	1	3	22	23	23	23
Beans, green, frozen	9 ounces	19.6	19.4	18.8	18.0	1	4	17	17	18	20
Peas, frozen	10 ounces	18.1	18.1	17.8	16.5	0	2	14	14	14	16
Dried beans (navy)	Pound	11.5	11.3	11.0	10.1	2	5	36	37	36	41
Dried prunes	Pound	26.4	26.3	24.7	22.9	5/	7	34	34	4/40	36
Margarine, colored	Pound	20.8	20.0	21.8	21.3	4	-5	24	27	4/22	27
Peanut butter	Pound	37.8	37.0	38.8	36.2	2	-3	35	36	33	34
Salad dressing	Pint	31.7	31.1	32.3	30.6	2	-2	17	18	16	18
Vegetable shortening	3 pounds	59.0	58.1	65.0	65.4	2	-9	29	31	26	30
Corn sirup	24 ounces	25.5	25.4	24.6	22.7	5/	4	11	11	10	12
Sugar	5 pounds	49.3	45.1	37.7	36.0	9	31	33	35	36	36

^{1/} The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

^{2/} Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

^{3/} The farm-retail spread is the difference between the retail cost and the net farm value shown in table on opposite page.

^{4/} Most farm-retail spread figures for July-September 1962 have been revised; figures in other columns revised as indicated.

^{5/} Less than 0.5 percent.

Table 21.--Farm food products: Retail cost, farm value of equivalent quantities sold by producers, byproduct allowance, farm-retail spread, and farmer's share of retail cost, July-September 1963 ^{1/}

Product ^{2/}	Farm equivalent	Retail unit	Retail cost	Gross farm value	Byproduct allowance	Net farm value	Farm-retail spread	Farmer's share
			Dollars	Dollars	Dollars	Dollars	Dollars	Percent
Market basket			1,086.59	---	---	397.02	689.57	37
Meat products			280.21	---	---	141.37	138.84	50
Dairy products			199.71	---	---	87.20	112.51	44
Poultry and eggs		Average quantities purchased	84.33	---	---	50.25	34.08	60
Bakery and cereal products	Farm produce equivalent	to products bought						
All ingredients	by urban families	per urban wage-earner and	172.77	---	---	28.91	143.86	17
Grain		in 1952	---	24.60	3.13	21.47	---	12
All fruits and vegetables		clerical-worker family	260.18	---	---	70.38	189.80	27
Fresh fruits and vegetables			158.40	---	---	52.50	105.90	33
Fresh vegetables			71.79	---	---	22.26	49.53	31
Processed fruits and vegetables			101.78	---	---	17.88	83.90	18
Fats and oils			42.01	---	---	10.95	31.06	26
Miscellaneous products			47.38	---	---	7.96	39.42	17
			Cents	Cents	Cents	Cents	Cents	Percent
Beef (Choice grade)	2.25 lb. Choice grade cattle	Pound	80.4	50.8	4.1	46.7	33.7	58
Lamb (Choice grade)	2.33 lb. lamb	Pound	73.1	43.2	5.7	37.5	35.6	51
Pork (retail cuts)	2.13 lb. hogs	Pound	59.6	36.3	4.3	32.0	27.6	54
Butter	Cream and whole milk	Pound	74.9	---	---	54.6	20.3	73
Cheese, American process	Milk for American cheese	$\frac{1}{2}$ pound	36.4	---	---	14.6	21.8	40
Ice cream	Cream and milk	$\frac{1}{2}$ gallon	85.3	---	---	3/22.7	62.6	27
Milk, evaporated	Milk for evaporating	14- $\frac{1}{2}$ ounce can	15.4	---	---	6.2	9.2	40
Milk, fluid	Wholesale fluid milk	Quart	25.2	---	---	10.5	14.7	42
Chickens, frying, ready-to-cook	1.37 lb. broilers	Pound	39.8	---	---	19.6	20.2	49
Eggs	1.03 doz.	Dozen	51.2	---	---	34.3	16.9	67
Bread, white								
All ingredients	Wheat and other ingredients	Pound	21.6	---	---	2.8	18.8	13
Wheat .....	.882 lb. wheat	Pound	---	2.6	.3	2.3	---	11
Crackers, soda	1.38 lb. wheat	Pound	31.0	4.1	.5	3.6	27.4	12
Corn flakes	1.57 lb. white corn	12 ounces	28.4	3.4	.8	2.6	25.8	9
Corn meal	1.34 lb. white corn	Pound	14.5	2.9	.3	2.6	11.9	18
Flour, white	6.9 lb. wheat	5 pounds	57.1	20.6	2.6	18.0	39.1	32
Rolled oats	2.31 lb. oats	18 ounces	24.1	4.4	.6	3.8	20.3	16
Apples	1.08 lb. apples	Pound	20.7	---	---	6.0	14.7	29
Grapefruit	1.04 grapefruit	Each	21.7	---	---	6.1	15.6	28
Lemons	1.04 lb. lemons	Pound	22.2	---	---	5.6	16.6	25
Oranges	1.04 doz. oranges	Dozen	91.4	---	---	27.1	64.3	30
Beans, green	1.09 lb. snap beans	Pound	22.4	---	---	10.1	12.3	45
Cabbage	1.10 lb. cabbage	Pound	9.3	---	---	2.6	6.7	28
Carrots	1.06 lb. carrots	Pound	15.3	---	---	3.7	11.6	24
Celery	1.11 lb. celery	Pound	13.7	---	---	4.3	9.4	31
Lettuce	1.41 lb. lettuce	Head	18.9	---	---	5.0	13.9	26
Onions	1.06 lb. onions	Pound	12.7	---	---	4.1	8.6	32
Potatoes	10.42 lb. potatoes	10 pounds	69.9	---	---	21.1	48.8	30
Sweetpotatoes	1.12 lb. sweetpotatoes	Pound	15.4	---	---	4.8	10.6	31
Tomatoes	1.18 lb. tomatoes	Pound	27.1	---	---	9.1	18.0	34
Orange juice, canned	5.88 lb. Fla. oranges for canning	46 ounce can	55.8	---	---	8.3	47.5	15
Peaches, canned	1.89 lb. Calif. cling	No. 2-1/2 can	33.3	---	---	6.1	27.2	18
Beans with pork, canned .....	.35 lb. Mich. dry beans	16 ounce can	15.0	---	---	2.2	12.8	15
Corn, canned	2.49 lb. sweet corn	No. 303 can	19.3	---	---	2.3	17.0	12
Peas, canned .....	.69 lb. peas for canning	No. 303 can	22.5	---	---	2.9	19.6	13
Tomatoes, canned	1.84 lb. tomatoes for processing	No. 303 can	15.6	---	---	2.5	13.1	16
Orange juice concentrate, frozen	3.05 lb. Fla. oranges for frozen concentrated juice	6 ounce can	32.5	---	---	9.2	23.3	28
Strawberries, frozen .....	.51 lb. strawberries for processing	10 ounces	27.6	---	---	6.1	21.5	22
Beans, green, frozen .....	.71 lb. beans for processing	9 ounces	23.7	---	---	4.1	19.6	17
Peas, frozen .....	.70 lb. peas for freezing	10 ounces	21.1	---	---	3.0	18.1	14
Dried beans (navy)	1.00 lb. Mich. dry beans	Pound	17.9	---	---	6.4	11.5	36
Dried prunes .....	.97 lb. dried prunes	Pound	40.1	---	---	13.7	26.4	34
Margarine, colored	Soybeans, cottonseed and milk	Pound	27.5	---	---	6.7	20.8	24
Peanut butter	1.77 lb. peanuts	Pound	57.8	---	---	20.0	37.8	35
Salad dressing	Cottonseed, soybeans, sugar, and eggs	Pint	38.1	---	---	6.4	31.7	17
Vegetable shortening	Soybeans and cottonseed	3 pounds	83.0	---	---	24.0	59.0	29
Corn sirup	1.90 lb. corn	24 ounces	28.8	4.0	.7	3.3	25.5	11
Sugar	37.60 lb. sugar beets	5 pounds	73.4	25.4	1.3	4/24.1	4/49.3	4/33

^{1/} The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

^{2/} Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

^{3/} Farm value of cream and milk only.

^{4/} Net farm value adjusted for Government payments to producer was 28.2 cents, farm-retail spread adjusted for Government processor tax was 46.6 cents, and farmer's share of retail cost based on adjusted farm value was 38 percent.

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